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General Article

BOVINE EMACIATION*

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When I commenced to write this paper, I had no idea of the degree of verbosity which could be inspired by the vision of an emaciated cow, but as page after page flew from my pen, I began to realise that the shears were badly needed. In the limited time at our disposal it will be impossible to deal fully with all the possible causes in detail; I have been compelled, therefore, to discuss the subject in general, quite briefly, devoting a little more time to the features which I thought might interest you. Even now the paper is far too long, but as a recompense it should suggest a number of points which may encourage you to overcome your natural reticence. If I can induce you to contradict, criticise or amplify my statements I shall be fully repaid for my effort. I must mention that if you are expecting a learned treatise, with voluminous quotations from the works of others, you are doomed to disappointment. There will be no bibliography appended. The remarks I shall make are based purely on clinical observations.

I trust that you will agree with me that the subject of bovine emaciation is worthy of our attention, not only from its clinical importance, but also on account of its bearing upon public health. One is apt to look askance upon the wasting cow and content oneself with advising its early destruction. In most cases, probably, one had done the right thing, but one learns little from such an attitude. There is a tendency in practice, and it is a perfectly natural tendency, to ignore the unremunerative and to devote attention to other matters more remunerative to client and practitioner. In investigating bovine emaciation, one must first decide whether one is dealing with a single case, or whether the loss of condition is common to all or several members of the herd. It is a fairly easy matter to make a diagnosis when only one individual is affected, or even when the whole herd is in bad order, but it is far harder when a few animals are affected and the remainder, living under identical conditions, are apparently normal.

In a district where tuberculosis is rife, there is a temptation to jump to a conclusion, although in many cases one may be wrong in regarding the condition of emaciation as being directly due to tuberculosis, even when the tuberculin test reveals the presence of the disease.

It is by no means so easy to make a satisfactory diagnosis on premises where there is *no* reason to suspect the existence of a specific disease.

Before tabulating the possible causes of bovine emaciation I propose to discuss the clinical features which should be noted in attempting to arrive at a diagnosis in any given case.

EXAMINATION

One can appreciate better the bodily condition of an animal by first viewing it in the open, in company with its fellows. Approximate loss of weight, muscular atrophy, movement and loss of strength can then be estimated and a clearer idea can be gained of the portions of the body principally affected. The colour of the coat should be noted, whether faded or normal; also if the coat is abnormally long or scanty, and how it lies on the body. It may be smooth and glossy, or the hair may be on end, or even facing forwards. Any evidence of parasitic skin disease should be observed. One should pay due regard to the condition of the tail and buttocks; whether they are clean or soiled with liquid fæces or dried blood. The frequency of the motions should be noted, also their nature. If the dung be firm, it should be examined closely, to determine whether the food material has been digested, whether it has been finely chewed or if it has passed through in a coarse, undigested form. If diarrhœa exists, note should be made of the presence or absence of bubbles, the degree of fœtid odour and whether blood is present, either in the form of clots or incorporated with the fæces. One should also observe carefully whether defæcation is accompanied, or followed, by straining, partial eversion of the rectum or whisking of the tail indicative of anal irritation.

On moving the animal, one gains an idea as to its activity, remembering that in certain conditions, such as Johne's disease, the greyhound type of patient is frequently unduly athletic; whereas in some other conditions, notably tuberculous enteritis, the converse holds good. When cough exists, forced movement usually reveals it, as also may drinking from a trough or pool. The latter also, in most cases,

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stimulates the act of urination, and the colour of the urine may be observed and whether there is a copious flow, or if it is passed in small quantities with signs of irritation.

Outdoor examination will enable one more readily to appreciate the apparent size of the head. A head which appears too large in proportion to the body, mainly owing to excessive growth and stand-off of hair; with a full, not sunken, eye and a tendency to œdema or excess of loose skin between the lower maxillæ, is indicative of Johne's disease and sometimes, though to a lesser extent, of parasitic gastritis.

A lean head, with tapering muzzle, indicating wasting of the facial muscles, accompanied by a sunken eye, is more frequently associated with clinical tuberculosis.

One then may note the regional distribution of the emaciation. An early loss of flesh over the lumbar processes and between the thighs, leaving, in a cow, the udder loosely swaying between the legs, is highly suggestive of Johne's disease, and the diagnosis is considerably strengthened if the body appears to be sharply divided into two halves, the anterior portion remaining almost normal, whilst the hinder portion is markedly wasted.

In contrast; in tuberculosis, particularly the enteric type, the front portion of the body wastes, especially the lateral muscles of the neck and those of the foreface. The shoulder muscles atrophy later, together with the hinder parts of the body. A clean tail is common in Johne's disease, whilst the animal is still strong, but in coccidiosis, the tail and buttocks are usually plastered with a mixture of dried blood and fæces, which coats the parts like a varnish and is difficult to remove.

Any evidence of vaginal discharge hanging around the tail, in milking cows, should be sought for.

Next, the animal should be tied in a position where it is possible to handle both sides of the body, preferably in a light house. Commencing at the head, one may palpate the intermaxillary and pharyngeal regions, noticing the presence or absence of œdema or glandular enlargement. With the fingers pressing lightly on either side of the post-pharyngeal region, one may observe whether snoring is induced easily. Œdema of the intermaxillary region, common in Johne's disease, must be distinguished from the hard swelling common in actinomycosis or actinobacillosis.

A close inspection of the tongue, teeth and dental pads should follow. The tightness of the hide over the ribs may now be determined, following this by examination of the superficial glands and, in a dairy cow, the four quarters of the udder and the supramammary glands.

The presence or absence of cough cannot be decided by pressure upon the trachea, as most animals will cough when subjected to such treatment, but one can, by this means, gain some idea as to the degree of tracheal irritability and the sound, and one can observe carefully whether the cough is accompanied by expectoration. If the animal is tied in its usual position, the wall in front gives some useful evidence. The manger in front of the animal should be examined for the presence of saliva, as in actinomycosis, and here it may be mentioned that a constant dripping of saliva, with a frothy appearance at the corners of the mouth, is often indicative of a foreign body in the diaphragm, whilst a slow steady dripping may often be observed in digestive disturbances.

Examination of the thorax may next be carried out. Percussion is one of the most valuable guides. First, thump each side of the chest, hard, in two or three places, with the soft side of the clenched fist and stand aside for a minute or so. In pulmonary tubercle, this treatment can be relied upon to induce cough. After being satisfied on this point, tap the ribs sharply with the knuckles, from above downwards. Note any undue resonance in the upper part of the chest as suggestive of consolidation of the apex of the lung, and abnormal resonance of the whole chest area as indicative of interstitial emphysema. Dullness, in any one area, may or may not be an indication of lung solidification; on the left side, it more probably indicates a full rumen, but marked dullness of the lower half of the chest, or entire side, suggests pleural exudation.

Auscultation is of moderate value. In an emaciated animal, loud wheezing or crackling noises are more frequently heard in interstitial emphysema; blowing noises, or a curious absence of sound, lead one to suspect tuberculosis.

I have met practitioners who have asserted that they can map out solid areas in the bovine lung by means of the stethoscope. Personally I cannot, and my few rash attempts at prophecy have always revealed my ignorance at the subsequent *post-mortem* examination.

Heart sounds can be appreciated best by laying the ear on the shoulder, immediately above the elbow. Splashing can be heard during the early stages of pericarditis, arising from foreign bodies, but not later, when dullness or absence of heart sounds is associated with a jugular pulse.

One should feel along the dorsal region for subcutaneous emphysema, which may indicate interstitial emphysema of the lung or breakdown of the lung tissue from the presence of tubercle or foreign body.

The abdominal organs should then be palpated as far as possible. The size and content of the rumen can be determined and the right

flank palpated, for pregnancy, and the presence of fluid bowel-contents. Pain may be evinced upon firm pressure upon the sternum, in an upward direction, if a foreign body has punctured the reticulum or the diaphragm. This pressure is best applied with the knee.

In the same circumstances, a sudden squeezing of the withers, with both hands, will produce a grunt and crouching movements.

Lastly, enquiry may be directed into the history of the animal: in the case of a cow, the date of the last or next calving; whether the cleansing was normal and if any vaginal discharge has been noticed. The question of appetite arises, and the nature and quantity of the food supply. In individual emaciation, this has not the same importance, but nevertheless, the old adage of one man's meat may apply to cattle also.

On paper, such an examination sounds somewhat like a day's work, but in actual practice it becomes automatic and occupies very little time. The main thing is to be thorough and overlook nothing, never jumping to a conclusion without considering all the possibilities. For instance, on being assured by the owner that a young bullock is cutting teeth, one should not gladly accept his diagnosis. Later on the owner might tell you what a fool you were!

We may now consider the various tests we may apply. The animal may react to tuberculin. Let it not be forgotten that a proportion of the remaining, apparently normal, animals on the farm will probably do likewise, if given the opportunity, and one has to decide whether the case is one of tuberculous emaciation or of tuberculosis with emaciation. There is a difference. I may take this opportunity of suggesting that the indiscriminate use of tuberculin, in the examination of animals under the Tuberculosis Order as suspected cases of tuberculous emaciation, may lead one into technical error. I am satisfied (and I confess that I speak from personal experience) that many animals are slaughtered on the evidence of the tuberculin test, which are, or should be, found on *post-mortem* examination, to be emaciated from causes other than tuberculous lesions although a certain degree of tuberculosis may also be present. Tuberculin is of most value in such cases when the reaction is negative; a positive reaction may satisfy the owner, but if one is burdened with a troublesome conscience and a recollection of past errors, it may complicate matters.

Whilst discussing the use of tuberculin, I cannot refrain from putting in a word for the subpalpebral test, which I first demonstrated at the National Congress Meeting, at Torquay, in 1927. For all practical purposes one injection suffices and the reaction can be observed at the 24th hour. There is no question about the reaction, it can be detected with the cow in a field and there are no doubtful reactions. If one injects even ten times the normal dose into the lower eyelid of a non-tuberculous animal, another observer on the following day would be quite unable to decide which eye had been treated. It appears to me even more delicate than the double intradermal test and it is certainly far easier to apply. As a proof of its efficacy, I may state that dealers have a decided objection to its application, as it picks out animals that would have been missed, or possibly given the benefit of the doubt, were the intradermal test used alone.

The examination of sputum is useful in some cases, but I sometimes doubt if it is worth the time involved, as it is open to the same objection as in the human subject—that bacilli may be present at times and absent at others, even when there are marked pulmonary lesions. A positive slide assures us that we are dealing with an open case of tuberculosis, but there are frequently several others on the same farm, equally dangerous, though not necessarily emaciated.

I have not had an extensive experience of johnin and I use it but little, for several reasons. In the first place, the prevalence of Johne's disease in some areas is so great that reaction might be misleading, and one could not venture to slaughter every reactor on the strength of the test. Then, again, I find interpretation of results more difficult than in the case of the intradermal tuberculin test, but this may be lack of practice. The main reason why I do not use johnin more often is that I consider that I can safely diagnose Johne's disease very early on clinical features alone.

The examination of the fæces for Johne's bacilli is not, in my opinion, of very great value. One may find them in many animals which are not emaciated, and possibly never may be, and miss them entirely in one which shows definite symptoms of the disease.

The examination of fæces, for parasites and eggs, is of far greater diagnostic value, but even here one may be led into an error in interpretation. In parasitic gastritis, unless present in large numbers, one must not rashly conclude that they are the cause of emaciation. Most slides of fæces, subjected to flotation, show eggs, in certain districts. Taylor, at a recent meeting of the Central Veterinary Society, pointed out that one must not place too much faith in egg counts; that a day's fasting might send the count up to four or five times the normal; diarrhœa might reduce it by one-sixth. More information on the correlation of the egg count with disease was required, he said, before use can be made of this valuable aid to diagnosis.

One should always examine fæces from several different members of the herd. Eggs

have an unfortunate habit of turning up in profusion on certain days and being scanty on others. One should always remember to search the sediment of a flotation tube for fluke eggs.

Common Conditions causing Emaciation in Bovines

I have here, in tabulated form, a list of the more common conditions which may induce emaciation in bovines, and after reading it through, I propose briefly to discuss certain clinical features of the more important items.

- (1) Malnutrition
  - Actual starvation
    - Lack of food
    - Exposure and weather
  - Diet deficiencies
    - Unsuitable food
    - Defective fodder
    - Worn-out pastures
    - Mineral deficiency
    - Avitaminosis
- (2) Parasitism
  - Stomach and intestinal parasites
  - Bronchial parasites
  - Distomiasis
  - Coccidiosis
  - Other protozoa
- (3) Disease
  - Tuberculosis
  - Johne's disease
  - Actinomycosis and actinobacillosis
  - Chronic pneumonia and interstitial emphysema
  - Metritis
  - Nephritis
  - Bacterial necrosis and liver abscess
- (4) Various
  - Digestive disturbances
  - Foreign bodies
  - Chronic poisoning, as from arsenic fumes, river pollution and possibly sewage
  - Dental defects
  - Lameness
  - Oral and œsophageal disorders

It is difficult to imagine that any sane owner would knowingly reduce his stock to a state of emaciation through want of food, but all of us who have lived in country practice have met with such cases. The contributing factors to the act are actual poverty, lack of credit, overstocking, and ignorance. Occasional instances are the result of sheer neglect. Actual starvation may be accelerated by want of suitable housing accommodation and, by bad seasons, when the supply of home-grown fodder is scanty. Rough winters, involving lack of grass, may be the cause of wide-spread semi-starvation, in areas composed mainly of small-holdings where there is insufficient capital to purchase extra food.

Taking account of the ration supplied to milking cows in my own district, where chiefly high-yielding Guernseys are kept, I find that the average feeding is composed of equal parts of crushed oats, maize gluten feed and bran, and that the average amount supplied to each cow, in winter, is about 8 lb. per day, with hay *ad libitum* at night. These cattle graze throughout the winter. During the summer this amount is halved, and hay is practically eliminated.

As the supply of grass during winter and during dry summers varies considerably, so does the condition of the cattle correspondingly. On the whole, milking cows do fairly well with this treatment. Some farmers are more generous in their allowance, but it is remarkable that those who feed best are invariably the most frequent visitors to the surgery, and if the misfortunes of one of these individuals are discussed among his neighbours, the usual explanatory comment, in the local vernacular is, " Well you see, he do tub heavy ! "

An abundance of fodder may be still accompanied by emaciation, when the quality is deficient or when the type of food is unsuitable. Imported grains are often sadly deficient in both nutritive and mineral values; hay crops may be badly saved, owing to bad farming or unfavourable weather conditions; or the hay may be meadow hay, derived from un-manured, worn-out pastures. Farming methods have not attained a high standard in all parts of the kingdom.

Many of our grazing farms are suffering from clauses in the leases, forbidding the breaking of land; in my own county (Cornwall) there are thousands of acres which have not been renewed in the memory of living man. All pastures should be broken at least once in seven years and it should be illegal, on the part of a landlord, to prevent such action on the part of a tenant.

Mineral deficiency is a subject in itself, and we have not time to-day, to discuss it at length. I am convinced that the provision of a suitable mineral mixture is almost a necessity in the feeding of high-yielding milking cows, but I should like to issue a word of warning regarding their composition. I find that mixtures containing a high percentage of bone flour are capable of setting up digestive troubles, and I prefer calcium to be administered in the form of chalk, which is well tolerated. Iron is preferable in the form of oxide and there should be at least a trace of copper present.

I am strongly in agreement with Spicer that many of the breakdowns from Johne's disease, and even parasitic diseases, could be avoided if a regular supply of suitable minerals were added to the ration. Not only does a suitable mineral ration improve the health of the animal and increase the resistance to disease, but it provides a means of enriching the soil, through elimination of excess, and constitutes one of the cheapest methods of supplying artificial manure. Iron deficiency is common, principally in growing cattle. In the mining districts of Cornwall it is common for cattle to drink from

streams heavily polluted with iron and copper and, provided that arsenic is not present also, no harm results; in fact, it is difficult to induce them to drink clear water if a supply of the polluted water is within reach, and in days gone by, before education reached its present level, it was customary to drive cattle which were not thriving, considerable distances, in order that they might partake of the "red river" water. Apparently mineral therapy is not so modern as we might be led to believe.

It is interesting to note that in the writer's district, where considerable tracts of blown sand constitute the soil of large areas of the north coast, "piners" are not met with. The soil contains from 25 to 50 per cent. of carbonate of lime, in the form of finely divided sea-shell, yet the iron-deficiency apparently has not given rise to the train of symptoms described by Dryerre and Greig, as met with on the island of Tiree.

Calcium deficiency, according to all accounts, is responsible for a great deal of the prosperity common to the veterinary profession. As you are aware, calcium absorption is dependent to a large extent upon the nitrogen and phosphorus intake, and upon the supply of the necessary vitamins. It is also probably influenced, largely, by the form in which the calcium is taken into the body. In my own district it is common to use the blown sand of the north coast to manure the acid granite soils of the inland areas. It may take anything up to five years to produce thorough chemical breakdown of the calcium carbonate supplied in this form, but the subsequent effect upon the well-being of both cattle and pastures is greater than when lime is used.

On the sandy pastures of the north coast it is uncommon to meet with Johne's disease, abortion and milk fever, but cattle reared in a sand area, sold to farmers in the granite region where the soil lacks calcium, frequently break down, soon after their transference, with unmistakable Johne's disease. Although there are other factors which may have some bearing on this, notably the absence of pools on open sandy soil, yet the rapidity with which the symptoms appear precludes any possibility of the disease being due to infection from the new pastures.

I do not propose to discuss the conditions known as osteomalacia and osteoporosis in cattle, other than to mention that I have frequently noted osteomalacia affecting the spine of milking cows, with resulting hind-limb lameness and progressive emaciation, in spite of a healthy appetite. Spinal tuberculosis is also by no means uncommon and may be confused with spinal osteomalacia.

Pica, or persistent licking, is often associated with osteomalacia and calcium deficiency, and I have found that this condition in dairy cattle is favourably influenced by udder inflation and the subsequent administration of a mixture of iron, calcium phosphate and salt, with the additon of treacle.

Avitaminosis, in my opinion, is not a common cause of loss of condition. Vitamins in milk are chiefly derived from the animal's food and the supply of vitamins may be important in this respect, from their bearing upon the feeding of infants; but in actual practice the standard ration of a dairy cow should meet all her requirements, when supplemented by green fodder. It may be noted here that the work of Steenbock, Hart, and co-workers, has shown that neither sunlight nor irradiation appreciably increases the anti-rachitic vitamin in milk, but that irradiated animals soon show a negative calcium balance.

Clinical Features of Parasitism

We will now pass on to the consideration of Parasitism as a cause of disease. I cannot, in the time at our disposal, discuss this in any great detail, other than certain special clinical features.

Parasitic gastritis and verminous bronchitis go hand in hand, in most cases, especially in young cattle. If husk is co-existent care is needed, in examination of fæces, to avoid mistaking the swallowed eggs of lung strongyles for those of stomach worms. Nevertheless, as the two conditions are so frequently present in the same herd, particularly during the autumn months, it is always advisable, in either case, to administer an iron and copper mixture in the feed, and occasional doses of turpentine and creosote in milk. I find that a mineral mixture containing commercial iron sulphate (which is invariably contaminated with copper) ground bone meal and salt, is of great value, if given from the end of the summer onwards, on farms where these diseases are prevalent. It has been claimed that copper sulphate has a specific effect on lung worms, after its elimination from the blood stream.

Although I carry out a good deal of intratracheal treatment for husk in calves, I frequently wonder to what extent injections incapable of damaging the delicate lung tissues can affect worms, and I also wonder whether, in the event of my treatment killing all the worms, what would be the effect on the calf. In other words, would a calf be happier with active living worms in the bronchi, which could be moved or occasionally expelled by coughing, or with the bronchi solidly blocked with plugs of interwoven dead worms, which could not be influenced by any effort on the part of the calf?

The *prevention* of worm diseases is worthy of more attention. Ploughing, draining, salting and liming the land all have their uses, but

most important of all is to feed young cattle liberally and sensibly. Half-starved cattle, especially during the first twelve months of their lives, cannot resist worm infestation; well-fed, they frequently struggle through without taking much harm.

Distomiasis in cattle assumes importance in some districts. It is most easily confused with Johne's disease, at the first glance, owing to the common occurrence of intermaxillary œdema. Snail destruction is difficult; spraying the land with copper sulphate solution is recommended, but I have obtained quite good results with common salt. In any case it is almost impossible to clear, and even harder to keep clear, a large tract of open country. I have never obtained very satisfactory results in treating cattle.

Coccidiosis is an exceedingly common complaint in my part of the country. It is most prevalent in the spring and autumn, and crops of cases always appear about the time of the hay harvest. It affects principally yearling calves, but serious outbreaks occur occasionally among dairy cattle. These are always of the acute type and death is by no means rare. I think that the percentage mortality is higher in adults than in young stock, although the frequency is far less. After recovery such cows act as carriers, and many of the freshly occurring outbreaks originate in this manner.

Coccidiosis, in a chronic form, is frequently present in the same animal, with latent Johne's disease, and the two conditions often conspire to bring about a breakdown.

The presence of clinical coccidiosis is easily detected by the dirty state of the buttocks and quarters, constant swishing of the tail, and the passing of clots of blood with the fæces, followed by liquid blood at the termination of defæcation. In adult cattle sometimes half-a-pint or more of fluid blood may be voided at one time. The act of defæcation is followed by straining and the rectum may be partially everted. In calves convulsions are common, and may occur even before the onset of diarrhœa, usually terminating fatally. Calves, in affected herds, which do not actually break down, become unthrifty, have long staring coats, grind their teeth, and feed very irregularly.

I met with some rather interesting cases on a farm some years ago, the symptoms being similar to those of Johne's disease. Several animals were affected before the investigation was made. No definite lesions of Johne's disease could be detected on *post-mortem* examination. The walls of the intestines appeared thin and reddish, against the light, and in places they were studded with small greyish nodules. I sent some of the intestines of a bull to Mr. Noel Pillers and he reported the presence of a glo-bidium, nowadays referred to as "gastrocystis," which belongs to a group of "Protozoa of uncertain position." It is, of course, not proven whether this was the actual cause of emaciation, but it would be of interest to ascertain if similar cases have been noted elsewhere in this country. He reported the case fully, with illustrations, in *The Veterinary Journal* of September, 1928.

Diseases Incriminated in Emaciation

Tuberculosis.—We come now to the list of diseases which may be responsible for emaciation, and heading these is tuberculosis. I shall not spend a great deal of time in discussing it. The disease has been talked about, written about and even legislated upon, and I have no doubt it still will be by our great-grandchildren. I consider that it should be made a punishable offence to keep any tuberculous animal alive until it reaches the stage of emaciation. In place of this, the Tuberculosis Order provides a premium for any owner who can retain on his premises a bovine animal until such time as it shall have done as much damage to its fellows and to the human race as it shall be capable of doing. It would be far more sensible to levy a fine than to pay compensation. I am convinced that general tuberculin testing, the marking of reactors, and the imposition of penalties upon owners selling tuberculous milk, would go far towards lessening the incidence of the disease. In time the question of the disposal of reactors would solve itself. It is only easy to sell a good-looking reactor whilst the would-be purchaser is kept in ignorance of the fact.

Our chief concern this afternoon lies in the question of differential diagnosis, and as I have pointed out earlier in this paper, one must not always jump to conclusions, even when an animal in low condition reacts to tuberculin.

There is a characteristic breathing, associated in my mind with pulmonary tuberculosis. It is characterised by a long inspiratory effort, chiefly abdominal, and a short expiratory effort. In direct contrast to this is the breathing in chronic interstitial emphysema, when the inspiration is short and there is a prolonged or double expiration. Interstitial emphysema is exceedingly common in well-fed dairy cows, even as a primary condition unassociated with tubercle, and corresponds with broken-wind in horses. On the other hand, it frequently occurs as a complication of tuberculosis or may be associated with any condition which causes chronic cough. Affected animals usually become unthrifty, slow in their movements and become successively worse after each calving.

Another fairly common condition, liable to be confused with tuberculous emaciation, and one which, so far, I have not seen described in text-books, is a type of chronic pneumonia in

which the animal coughs persistently, wastes to a skeleton and shows the emphysematous type of breathing. Such cases never recover but live on for months. On *post-mortem* examination the smaller tubules of the lung are found to be enormously thickened and there are scattered areas of solidification throughout the lung, frequently marbled. The tubules are filled with a viscid froth and on squeezing the cut section of the lower portions of the lung, a yellowish, thick pus exudes. There is always a secondary interstitial emphysema present. I find that there is a tendency to infection when such animals are housed, during winter, with other cattle, and I have seen as many as seven cases in one byre. I have never observed infection to spread, whilst at pasture.

A point in diagnosis which also appears to have escaped our literature, is the connection between chronic lameness and tuberculosis, in many instances. I always suspect a cow with a stiff hind gait and long turned-up toes, of spinal tuberculosis, and the chronic laminitic cow always suggests to my mind tuberculous pleurisy. In many cases *post-mortem* examination has shown the correctness of the supposition. An interesting feature of acute bovine tuberculosis is the frequency with which one type of the disease occurs upon one premises. Thus, there is one large dairy in my part of the country where tuberculous enteritis turns up with unfailing regularity. It is quite common for a milking cow to be apparently normal on this farm one week and to break down with acute tuberculous diarrhœa and die the following week. In these cases the small intestine is found to be pitted with tuberculous ulcers and all the mesenteric glands show caseation. I have never seen a typical case of pulmonary tuberculosis on these premises.

On the other hand, some farms produce quite a number of tuberculous udders, others specialise in pulmonary tuberculosis. It appears almost that a variety of strains must exist, each with its own predilection seat.

Johne's disease is not, in my opinion, difficult to differentiate from tuberculosis in most cases. Diarrhœa is by no means a constant symptom, in spite of our text-books. Many cows carry extensive lesions of the disease without ever showing any looseness of the bowels. A more constant feature is some degree of intermaxillary œdema, ranging from a slight puffiness beneath the larynx, to a large, soft, watery œdema, extending to the chin. Fading of the body colour, for instance, from a normal light red to a brick or yellow colour, and a marked tendency to retain the old coat, are characteristic of Johne's disease, as also is a general appearance of freshness, with a full bright eye, in contrast to the utter dejection so frequently encountered in tuberculosis. The characteristic wasting of the hinder parts of the body has already been mentioned.

I am frequently amazed at the advanced lesions of Johne's disease one frequently meets with in dairy cows, submitted to *post-mortem* examination for some entirely different condition, which during life have never shown the least symptom to indicate their presence. I presume that the necessary additional factors have been absent. I believe that cattle have a natural resistance to the activities of the Johne's bacillus and that very few clinical cases would occur in animals kept under their original natural conditions, unless aided by the presence of parasites. In domestication many factors are at work, and what would normally be an insignificant disease assumes an unnatural importance.

I cannot leave these two diseases without expressing my belief that whilst a bovine animal affected with tuberculosis *may* develop Johne's disease, one affected with even latent Johne's disease seldom develops tubercle. As I pointed out in a recent issue of *The Veterinary Record,* I have tested with tuberculin 400 cases of clinical Johne's disease and have obtained a reaction in only eight cases. Had I tested 400 average dairy cows, selected at random, I should have found probably 80 or more reactors. I can only presume that the presence of Johne's disease, probably from infection derived quite early in life, protects against tuberculosis—but, on the other hand, that a prior tuberculosis affords no immunity against Johne's disease. When the two conditions are discovered in the same carcase it will be found, invariably, that the lesions of tuberculosis are old, usually calcified, and that they preceded the lesions of Johne's disease. I have seldom found any evidence of tuberculosis in an animal destroyed on account of clinical Johne's disease, on premises where the latter disease is prevalent and where the animal could have developed an early latent infection.

In dairy cows *purulent metritis* is often an unsuspected cause of emaciation and may play an important rôle in precipitating breakdown from some previously existing disease. Many of the cases of Johne's disease which assert themselves a few weeks after calving may be found to hold several pints of stinking fluid in the uterus.

Among the less common causes of emaciation we may mention *nephritis*, which is not rare in dairy cows and is characterised by persistent hunger-strike, and *bacterial necrosis of the liver,* which is particularly common in housed bulls.

Passing on to the more common non-specific causes of emaciation, we must include *digestive*

disturbances and *foreign bodies*, and *defects of the mouth and teeth.*

We now come to the last item on our list, *chronic poisoning.* In my younger days, cattle in the mining districts were constantly being poisoned by the arsenical fumes from mine-stacks. Frequently such animals remained apparently healthy until they were sold into another district, where they were deprived of their "dope."

Present-day legislation concerning the height of stacks and the provision of condensers, has remedied this, but litigation still ensues. This always involves argument as to whether the insoluble double sulphide of iron and arsenic, locally termed "mundik," is capable of causing poisoning. This argument has waged for 50 years, but the weight of evidence is not in favour of the mine-owners. I believe, in the light of my present experience, that most of the cattle which died from exposure to arsenical fumes actually died from Johne's disease, and that the breakdown was accelerated by the irritation of the finely divided arsenic.

As regards *sewage poisoning*, enough has been said elsewhere—I prefer to add nothing to it.

I have only touched the fringe of the subject of my paper, and I leave it to you to make up some of its deficiencies.

. . . . .

Discussion

The Chairman (Captain O. V. Gunning) said they had all listened most intently to a very excellent paper: one could readily see that it was from a clinician and keen observer, and he was confident that it would excite some keen discussion. He had pleasure in calling upon Mr. Hall Masheter, of Newnham-on-Severn, to open.

Mr. J. W. Hall Masheter: Having had the advantage, as opener of the discussion, of reading Mr. Smythe's paper, I can only say that I cannot find anything to criticise. There is no doubt that as a clinical essay, it approaches perfection, and is a splendid refutation of the evidence given to certain Committees and Commissions to the effect that the general practitioner was altogether behind the times, and that only men with a certain post-graduate degree were capable of carrying out routine inspections of dairy cattle, diagnosing tuberculosis and differentiating between that disease and others, although clinical appearances may be similar.

Mr. Smythe's dissertation on the clinical features of emaciation in bovines is, to my mind, a masterly setting forth of small features of disease which, when summed up, lead to a correct diagnosis, or which, when deducted and eliminated, lead to the same conclusion.

Diagnosis, when one comes to think of it, is a process of building up or eliminating symptoms and signs—a process of synthesis and deduction which enables one to come to a conclusion which is not far from being correct. Nevertheless, although one may, in the course of years, become an expert clinician, that is not sufficient. We, in our profession, are in a unique position and a very favourable position, as compared with the sister profession of human medicine, in that we can follow up those of our patients which die, and which may have puzzled us somewhat, to a *post-mortem* examination. This part of our work, I am afraid, is neglected by many of us. Progress cannot be made to the extent it ought to be made in correct diagnosis, unless this very essential proceeding is carried out.

Then again, if we do make a *post-mortem*, how many of us make use of the pathological institutes, whose specialised staff are, as I personally find, only too pleased to help us and are pleased when we send them material?

We general practitioners are not pathologists; we are not intended to be pathologists—it is not our work: a fact which seems often to be forgotten. Pathology is a special branch of the profession, as is general practice.

The ideal for our work is team-work between the general practitioners in the first place, and the research worker or pathologist: the one to supply material and the other to supply the knowledge gained from that material. In that way, and I think only in that way, can any material progress be made in our science as apart from our art.

Had this team-work been more widely used there would have been no necessity to set up, in many counties, a system which has led to dissension and positive hatred of the system, in the minds of many general practitioners who have been superseded by the individuals employed under it, in carrying out investigation of an outbreak of some apparently contagious but unrecognisable disease.

However, I seem to be getting away from my subject—although in one sense it is relevant to the diagnosis of bovine emaciation, as the pathological changes which cause emaciation are many and often obscure.

I am fortunate in my district in that there is no great incidence of any particular disease affecting bovines, with the one exception of parasitic gastro-enteritis. Great numbers of young stock die every winter and spring. The owners are fatalistic about this condition. On the low lands on the banks of the Severn these cattle are grazed all summer and winter on the same ground, with the consequence that most of the cattle grazing there become infected and numbers die. The owners, their fathers, grandfathers, and probably their great-grandfathers, suffered the same loss, and it is looked upon as inevitable.

I suppose, some day, this condition *may* be notifiable.

As to mineral deficiency, I have in my practice a herd of some 20 Friesians. For many years abortion and sterility were very prevalent. The cattle were apparently well fed, both with concentrates and good hay, but they were all to some extent emaciated and without bloom, summer or winter. The land was well manured, but the soil was shallow and close to limestone rock. There was no "milk fever"—a fact which, to my mind, ruled out calcium deficiency. The blood was tested for contagious abortion, but was negative. Two years ago I put these cattle on sterilised bone meal, as I was of opinion that there was an imbalance of body minerals somewhere, and I thought the deficiency might be phosphorus. Apparently that view was correct, as the cows now look well, are breeding well, and regularly, and the calves live.

Concerning Johne's disease, a colleague writes me that "During January this year I slaughtered nine cows under the Tuberculosis Order. Most of them on *post-mortem* showed advanced lesions of tuberculosis. They were badly affected, but every cow was also affected with Johne's disease, and not one of these cows was clinically affected with Johne's disease during life, with the exception of emaciation—diarrhœa being absent in every case."

In my own experience of this disease I had, in 1925, when milk was worth nothing, and sheep were selling well, three herds of dairy cattle on different farms, where Johne's had got so strong a hold that almost every beast brought into the herd developed the disease and had to be destroyed sooner or later. They were not large herds, some seven or eight in each herd. On my advice the cattle were sold out, and were replaced by sheep. The sheep were kept on until the "slump" some four or five years ago, and replaced by cattle and these cattle are free from Johne's disease.

In regard to testing, at about the same time (1925 or 1926) I tested a herd for Johne's disease with avian tuberculin and got 46·4 per cent. reactors, most of which were removed to carry on the good work of disseminating disease in some other herd. They were re-tested the following year with johnin and 70 per cent. reacted. I advised that all cattle on the farm should be disposed of, and this was done. No cattle were put on the farm for three years, when it was restocked and up to the present is free from this disease.

Other badly affected farms showed reactors up to 80 per cent. I remember two farms in one ownership, and in both farms Johne's disease kept cropping up; one farm was much worse than the other. We tested both herds and all reactors were sent to the badly affected farm, and the non-reactors, which were very few, to the lightly affected one. The owner in this case could not dispose of the cattle wholesale, as this was a milk-producing farm, and the cows were sent to the knackers as the disease advanced. To-day the farm to which the reactors were sent is as bad as ever, but on the other farm the disease is conspicuous by its absence.

Now as to tuberculosis, the only part of this section of Mr. Smythe's paper about which I shall say anything is: "The disease has been talked about, written about and even legislated upon, and I have no doubt it will still be by our great-grandchildren," and the three subsequent paragraphs.

On the eradication of this disease by tuberculin testing, isolation of reactors, or even destruction of reactors, I am frankly a heretic. I simply say that it cannot be done, because in an eradication scheme there are so many points to be considered. It is well known that human beings, swine, poultry, dogs and cats, and rats, rabbits and other vermin are subject to tuberculosis, and that the different forms by which they are affected are transmissible to bovines. It is said, also, that the human type is transmissible to bovines and is responsible for the no-lesion reaction. Swine are known to be subject to all three types, human, bovine and avian. Dogs, cats, etc., are all subject to tuberculosis of various types, and will provide sources for re-infection. That being so, an eradication scheme must include them too, and this to my mind makes it impossible to avoid re-infection. It will reduce the incidence of the disease but it will not eradicate it.

Routine inspection plus vaccination of calves should be the method employed to eliminate this disease. Tuberculin testing begins at the wrong end—*prevention* is the only method, and taking upon myself the rôle of a prophet I say that the adoption of this method is much nearer than one would think.

As to protozoan parasites causing emaciation, I would like to call your attention to a condition which is fairly common in my practice. I see some six or seven cases every year, but I hear of a great many more. Locally the condition is well known as "red water," but it is not due to piroplasmosis, and the symptoms are different—the urine is bloodstained, but the end process of micturition shows that the colouring is due to an admixture of blood, as there is invariably a blood clot passed. The disease is of a chronic nature and results in a progressive emaciation until death ensues. The bladder on *post-mortem*, shows anything from embolised blood vessels to papillomatous growths, which may be very extensive and which bleed freely.

My friend Major Sturgess, late Chief Veterinary Officer of Ceylon, says that the description reminds him of vesicular bilharziosis due to *Schistosoma hæmatobium* infection. The intermediate host of this nematode is a water snail. In one case last year I searched for snails at the drinking place but they were scarce owing to the dry weather and I could find only a few specimens of the flat Planorbis—which on examination proved to be negative. In *The Veterinary Record* of November 10th last year, Mr. S. Datta, of Muktesar, had an article on this disease. He says: "Among the animal diseases which have defied elucidation, notwithstanding the very considerable amount of scientific investigation that has been expended upon them in most countries of the world, chronic hæmaturia of cattle would appear to be one of the most outstanding . . . but . . . definite proof has now been secured that the hitherto obscure disease is a parasitic disease, caused by a large protozoan parasite. The parasite has been repeatedly seen in sections of diseased urinary bladder and also in the urine." The designation *Entamoeba kamala* is tentatively proposed. Mr. Taylor of the Ministry's laboratory at Weybridge is investigating my specimens, and perhaps if others were to send on bladders from these cases to him, one more disease may be elucidated, and a cure found.

Mr. C. J. Pugh thanked the essayist for his paper and complimented him upon the manner in which he had presented it: the paper was one of the best he had heard for a long time. He would like to know whether Mr. Smythe had adopted the use of the stomach tube for the relief of gastro-enteritis and what results had been obtained. He also asked for the differential diagnosis between an advanced case of gastro-enteritis due to parasites, and Johne's disease, as these cases were so often confusing to the practitioner. What tuberculin was used by Mr. Smythe, in conjunction with the subpalpebral test, in his diagnosis of tuberculosis?

Mr. H. S. Robinson, after expressing his regret at such a poor attendance from members of his own division and thanking the speakers for the paper and introduction, said he had gathered that there was a very important means of differentiation between Johne's disease and tuberculosis. He noted that the two diseases were seldom present in the same animal. Mr. Robinson mentioned that he had given up the intra-tracheal injection for husk, for reasons similar to those given by the essayist.

Captain J. C. Coleman expressed his appreciation of the paper and said he only wished that authors of text-books would give such distinct guidance in regard to diagnosis as Mr. Smythe had done. He did not hear the speaker make any allusion to the "steaming up" of cattle for milking purposes. He had seen much of this and many of the cattle had, or seemed to have, the appearance of being tuberculous, but on *post-mortem* this was not proven: he thought that perhaps it had something to do with digestive interference. He rather wished Mr. Smythe had had more experience with the use of the johnin test, as he was assured that it was in very much the same position as the double intradermal tuberculin test; he had been informed that it was exceedingly reliable in the hands of experts.

Referring to the similarity between the bacteriological features of tuberculosis and Johne's disease, it was well known that johnin could not be produced unless it was in the presence of (dead) human-type tubercle bacilli. Some years ago he had the impudence to read a paper entitled "Tuberculosis, Human and Bovine, and Johne's Disease." He had always contended that the two were one and the same, except that in Johne's disease the bacillus had become attenuated to such an extent that it had lost its power to pass beyond the bowels and adjacent lymphatic glands.

He had conducted very many experiments and had discovered by *post-mortem* that a number of cows in a T.T. herd tested subcutaneously for four or five years had ultimately gone down to the intradermal test and still showed no reaction to the subcutaneous. It therefore appeared that tuberculin had the power of causing immunity to reaction by the subcutaneous method. In support of this, Mr. Smythe had said that it was very seldom one found tuberculosis and Johne's disease at the same time. One did get it, but not frequently, and it appeared to him that there again the same thing was happening. Experiments to determine the relationship between Johne's disease and tuberculosis would be exceedingly interesting. He was afraid that the majority of our profession did not sufficiently realise the extreme delicacy of the intradermal test, or its reliability.

Mr. E. P. Edwards said that when in practice in North Wales he saw a great deal of Johne's disease, and Mr. Smythe had stressed the importance of œdema in the maxillary glands as a symptom. He had been wondering whether the soil had anything to do with the absence of symptoms there. He would like to have Mr. Smythe's further opinion of the johnin test, of which he seemed not to have a very high regard: it had come into use since Mr. Edwards had retired from practice, therefore he had no experience of it. He was interested in Mr. Smythe's statement that he could diagnose Johne's disease from clinical symptoms only, and would like to have the clinical picture of the difference between Johne's disease and tuberculosis, if there was such a clinical picture, as it would be of the utmost use to the practitioner.

Major F. J. Taylor stated that the majority of cases of emaciation with which he met at present were due to a perfectly natural cause, *viz.*, starvation, owing to the extremely bad pasturage of the past two years, and consequently poor grass and hay. He did not agree that the simultaneous occurrence of Johne's disease and tuberculosis in an animal was infrequent: his own experience was the reverse, but as to incidence, he found that Johne's disease was generally in the acute stage, with tuberculosis more or less chronic. He did not notice that the speaker had stressed the importance of defective teeth. Like Mr. Smythe, he also had practically given up the intra-tracheal injections for husk in calves. In conclusion, Major Taylor suggested that clinical papers should, whenever possible, be printed and circulated prior to delivery.

Mr. H. W. Steele Bodger (Hon. Secretary) informed Major Taylor that the cost of printing and circulating papers beforehand might well be prohibitive—although he agreed upon the desirability of the course. One effect, however,

might be a decreased attendance, which would be fatal.

The Chairman expressed his profound thanks to Mr. Smythe and to Mr. Hall Masheter, the former for his paper and the latter for the excellent opening. To his mind, the outstanding feature of the essay was that it was a paper by a keen clinical observer who had shown them how to conduct general practice, with particular reference to the vital matter of arriving at a diagnosis. He thought it was disgraceful that cattle should be left in fields to be starved, and no-one seemed to take any notice. The live-stock wastage was enormous. The first thing to be done was to tackle the question of feeding; the profession should regard as worthy of its urgent attention the reorganisation of the feeding of cattle in this country, special attention being paid to the provision of a balanced and nourishing dietary. He noticed that Mr. Smythe was not very enthusiastic about the johnin test, but his own experience had been very encouraging. He thought it was of greater practical advantage with young stock: with older cattle the higher percentage of reactions, often 50 per cent., made it rather impracticable as a means of elimination at the present time.

The Reply

Mr. Smythe, in replying, said he wished to thank them all, and Mr. Hall Masheter in particular, for the very kind way in which they had received his efforts: Mr. Hall Masheter's opening had been quite a paper in itself.

In Cornwall they had quite a number of cases with papilloma in the bladder associated with hæmaturia. In replying to Mr. Pugh, he did not make use of the stomach pump: he thought better effects would be obtained with medicines given in milk, alkaline solution or saline solution, which helped to carry the medicaments directly to the fourth stomach. Differentiation between fluke infestation and parasitic gastritis could be made by noting the relative position of the eggs in the flotation tubes.

Proceeding, Mr. Smythe mentioned that he used the Cambridge synthetic type of tuberculin and had found it very good; he had had, also, very excellent results from the use of one of the proprietary brands of tuberculin. As he had only a limited experience of johnin, he preferred to make no comments, but he thought it might be worth while to give it a trial by the subpalpebral route.

Replying to Mr. Coleman, he quite understood that "steamed up" cows could become very emaciated, and was rather inclined to agree with him as to the cause.

As to the incidence of tuberculosis with Johne's disease, he, of course, was referring to his own country where Johne's disease was very prevalent. Age influence might play some part: a fair percentage of young animals had no doubt got a dose of Johne's disease from somewhere and as a result did not develop tuberculosis. There were cases where one did get the simultaneous occurrence of these conditions, but in all those cases the tubercle was old-standing and it was the Johne's disease that supervened and killed the animal.

In reference to the point raised by Mr. Edwards concerning œdema of the submaxillary space, the essayist observed that, in Cornwall, this was commonly referred to as "chuck felon." It was impossible to sell a cow in Cornwall if she had any degree of swelling in the throat. His own opinion was that the condition was due to anæmia, and that it was one of the earliest visible signs of the existence of Johne's disease.

He might illustrate his view of the difference between a cow with Johne's disease and one with tuberculosis by saying that if an experienced observer walked into a place and saw the animals he could distinguish them at a glance. The tuberculous cow was a very sick cow: the other, with its bright eye and active appearance, except in extreme cases, was in many ways apparently a very healthy cow.

He had tried the taking of scrapings from the rectal mucosa, but had never been very successful in gaining much useful information from them. He had not very much faith in the use of brewers' grains as a feeding medium, and would hesitate to recommend their use.

Clinical Communications

ABORTION WITH PARTIAL RETENTION OF THE FŒTUS IN A MARE

N. F. POLLOCK, M.R.C.V.S.
Cromer

Subject.—Shire mare, aged 20: in good condition and in foal to a two-year-old Clydesdale.

History.—On November 28th last, the mare was pulling a cart when suddenly she stopped and ejected blood-stained fluid and material "from behind." She was therefore unyoked and put in a loose-box. That evening she fed and next day looked all right. Accordingly the animal was returned to work. Such was the history given on December 6th, when the occurrence was casually mentioned during a visit to the farm.

Examination.—A quantity of the ejected material being available for inspection, this was identified as fœtal membrane. The mare was seen to be feeding normally and, being pushed for time, I deferred further examination until my next visit, as she appeared to be in no urgent need of attention. On December 10th a vaginal examination was made and the *os uteri* found sufficiently open to admit two fingers. Something hard was found in the entrance, withdrawn, and identified as a fœtal rib. The *os* was dilated and the hand inserted. Small bones were found loose in the womb, also fragments of tissue and bone. The vertebral column was withdrawn whole, including as it did a mass of degenerated ligament and skin, but the rest of the fœtus had to be removed piecemeal, even the skull bones having separated at the symphyses. Of flesh there was hardly a trace. The womb was emptied of all fragments, and four lysol (3 per cent.) pessaries were inserted in the fundus. Recovery was uneventful.

Discussion.—The owner told me that when he inspected the ejected material on November 28th he noticed, in addition to the foal bag shown me, a quantity of what looked to him "just like pig's guts." This indicated that when the abortion occurred, disintegration had so far advanced as to allow of the escape of the viscera with the fœtal membrane. Why the entire remains were not expelled is puzzling. It seems to me that disintegration of the fœtus had so far affected the placenta as to cause it to part where the weight of the former pressed upon it. Apparently labour pains were sufficient to expel a placenta in which solution of continuity with the uterus had occurred, but not strong enough to evacuate the dead weight of the fœtus.

A surprising feature of the case is that so little after-effect was experienced; indeed, apart from the happening in the tumbril and some succeeding discharge, the mare appeared none the worse.

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MILK TETANY IN A SOW

N. F. POLLOCK, M.R.C.V.S.
CROMER

Subject.—Large white gilt.

On February 27th, a call was received to a sow described as having fits after farrowing the previous day.

On arrival, a gilt in good condition was observed lying flat on one side with all four limbs rigidly extended. Ten sturdy bonhams were vigorously striving to satisfy their hunger on the thirteen teats, and were at once removed to a crate packed with straw. No rise in temperature was recorded and the mammary gland was normal in consistence, but devoid of milk.

When one closely approached the gilt's head she raised it and struggled in a vain endeavour to rise, jerking the limbs spasmodically. She presented just the appearance of a cow with milk-fever.

Diagnosis.—Milk-fever. She had been fed principally on bran and supers with no milk or green stuff. Ten well-grown bonhams as an initial effort had depleted her system, and the immediate and continued sucking dry of the mammary gland had turned the scale against her.

Treatment.—As I had no calcium solution with me, resort was made to inflation, a fine hypodermic needle, attached to a milk-fever syringe by rubber tubing, being utilised. At the first compression of the pump the changed appearance of the gland section astonished me. The base of the teat and lower extremity of the section assumed a marked mulberry-like surface, which spread to the limits of the section as inflation proceeded. Nine sections were inflated in turn but the remaining four defied all efforts at entry. The cramp of a diminutive low-roofed sty and the strain of locating the teat-ducts of a restless sow by the light of a hurricane-lamp were not conducive to prolonged effort in that direction.

She was left warmly bedded-down and the owner was instructed to keep the litter away from her and see to their feeding with cow's milk per sucking bottle.

Course.—When visited next day the sow was resting quietly and was able to rise with assistance. The bowels had acted normally, but appetite was in abeyance.

Dextro-calcium (4 c.c.) was given hypodermically, and the owner told to try her with milk and cabbage.

The following day she was apparently recovered, had fed, and got up when disturbed. The mammary gland was still somewhat inflated but I could draw off neither milk nor air on stripping the teats. On bringing in one of the bonhams the sow arose instantly. Having induced her to lie down it was put to work on the teats, and created amusement by running along the gland from end to end and back again repeatedly, sucking frantically at each teat in turn for three or four seconds in an endeavour to extract refreshment: of milk, there was none.

The litter is now being bottle-fed and the gilt fattened for market.

ARMY VETERINARY SERVICE

LONDON GAZETTE—WAR OFFICE—REGULAR ARMY

March 22nd.—The date of retirement of Maj. H. C. Stewart is Feb. 10th, and not as stated in *Gazette* of Feb. 8th.

REGULAR ARMY RESERVE OF OFFICERS

March 22nd.—Maj. H. C. Stewart (ret. pay) to be Maj. (Feb. 10th), with seny. Sept. 27th, 1919. (Substituted for notification in the *Gazette* of Feb. 8th).

Mar. 26th.—The follg. Lts. (on prob.) are confirmed in their rank:—R. H. Duff, E. H. Lewis-Bowen, K. I. Barlow.

TERRITORIAL ARMY RESERVE OF OFFICERS

The King has been graciously pleased to confer the Efficiency Decoration upon Major J. Facer, under the terms of the Royal Warrant dated September 23rd, 1930.

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Annuity for a Pony.—Miss Lucy Edgell, Cowley Place, Exeter, entrusted an annuity of £25 to her executors to be expended "in the care and maintenance of my pony, which I do not wish to be destroyed unless in the opinion of a veterinary surgeon it shall be in such a state that it would be kinder to do so."

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The treasurer of the Tom Walls' Sportsmen's Fund has now handed over to the British Empire Cancer Campaign the sum of £7,818 5s. 9d., being the net profit collected by Mr. Walls on behalf of his fund, which he began 12 months ago. Mr. Walls was greatly assisted by Lord Derby, Lord Westmorland, and Mrs. Gerald Glover.

Abstracts

[Middle-ear Disease and Facial Paralysis in the Horse. Berge, E., and Cohrs, P. (1934.) *Arch. f. wiss. u. prakt. Tierhlk. 68.* 3. 295-304. (4 illustrations. 9 refs.).]

This is a clinical and pathological account of a case of middle-ear disease in a three-year-old horse.

Symptoms.—The left pinna hung lifelessly downwards and forwards, and from the interior ran a thick, yellowish-brown, muco-purulent exudate. The upper lip was drawn towards the right side. The horse experienced difficulty in retaining food in the mouth, especially hay and grass. Food accumulated between the molars and the teeth on the left side. When drinking, the head was placed deeply into the water, but only small quantities were swallowed. Nystagmus was absent.

A T-shaped scar was noticed in the left parotid region.

Diagnosis.—Paralysis of the left facial nerve. The horse was slaughtered.

Autopsy.—The following remarks apply to the left ear only.

The bulla ossea was abnormally movable. The tympanic cavity contained thick, yellowish pus. The mucous membrane was swollen and the normal structures of the middle-ear were unrecognisable. The Eustachian tube was normal except at its entrance to the middle-ear, where its mucous membrane was thickened. There were no other visible abnormalities in the carcase.

Histological Appearances: 1. *External Ear.*—The cartilaginous portion showed œdema of the skin, and no other abnormality.

In the bony portion, the skin was thickened by an inflammatory exudate, rich in neutrophils. Close to the drum, the lumen was greatly reduced by a pea-sized swelling, consisting of a number of minute abscesses. Absorption of the bony meatus and new formation of bone was commencing.

2. *Middle Ear.*—In the mucous membrane, there existed a process of chronic purulent inflammation and formation of granulation tissue, and on it were observed swellings and cabbage-like growths up to three mm. high. The mucous membrane covering the bones was similarly affected and the latter were deeply buried in granulation tissue. The cavity was filled with pus.

The drum was dissolved in its centre, thus establishing direct communication between the middle and external ears.

The facial nerve at its origin and at its separation from the auditory nerve, was unaltered. The geniculate ganglion, however, and the portion of Nerve vii in the facial canal, showed chronic interstitial neuritis. The nerve was infiltrated by an inflammatory exudate, and its sheaths were degenerated. The nerve was nearly normal distal to the geniculate ganglion.

The chorda tympani, N. tympanicus, and N. stapedius, showed similar changes.

The medulla oblongata and the facial centre appeared to be normal.

Bacteriology of the Lesions.—A culture was not made, but smears from the pus in the middle-ear contained short, slender, Gram-positive rods, resembling *Bact. pyogenes.*

Origin of the Disease.—In the absence of evidence to the contrary, it is considered probable that the otitis media was a primary condition, and possibly related to the scar in the parotid region of the same side. Inflammation of the nerves was by extension from the primary site.

E. W. A.

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[Osteodystrophia generalisata in the Horse. Berge and Pallaske. (1934.) *Berl. tierärztl. Wschr. 24.* 385-389 and 401-406.]

Osteodystrophia generalisata, a disease of unknown etiology, had been observed in the horse, pig, goat and dog.

A localised form and a generalised form are recognised in man, but veterinarians have recorded chiefly the local form. The size and position of the enlargements have given rise to diverse symptoms such as dyspnœa, stertor, muco-purulent nasal discharge, diminished appetite, and interference with mastication.

An account is given of the examination of the whole skeleton of a horse, in which clinically the disease was localised, in order to discover whether such cases are, in reality, generalised.

Subject.—One-and-a-half years' old Shetland pony.

Symptoms.—Bi-symmetrical enlargement of the upper and lower jaws. Percussion of the superior maxillary sinuses was dull and that of the frontal sinuses resonant. The exertion of considerable pressure caused the bone to give way in some places on the lower jaw.

The pony's gait was slightly abnormal—the forelimbs had a tendency to trip. Pressure on the forelimbs caused no pain.

Prehension was normal but mastication was extremely slow, although the teeth appeared normal.

No noticeable changes took place during the following four weeks and the animal was then destroyed.

Blood Examination.—The calcium content of the serum was 17·8-18·75 mg. per cent.

A lymphocytosis was present (contrary to the findings of Joest and Jahnlichen in another case, in which a neutrophil leucocytosis existed).

Post-mortem.—The carcase was well-nourished. The chest and abdominal viscera, and the endocrine glands appeared normal. The teeth were firm in their alveoli. The incisor regions of the jaws were not affected.

Naked-eye examination of cross-sections of the enlargement showed it to be porous. The nasal cavity was not involved (hence no abnormal respiratory sound), but the submaxillary sinus was narrowed.

The vertebral column showed no abnormal curvature but the vertebral bodies and arches were spongy.

The ribs were flexible and the costo-chondral joints normal. Two ribs showed thickening about their middle-thirds.

The limb-bones showed no thickening.

The joint cartilages were normal, except in the right patella joint, where the femoral cartilage was thin, and exposed sub-chondral bone.

A very complete histological examination of the skeletal system was made, and it was concluded that the disease was not confined to the skull, but was generalised. It appeared that most of the bones showed signs of the disease, namely, bone absorption and abnormal bone formation.

Sections of endocrine glands showed no significant abnormalities.

Two photographs of the horse and seven photomicrographs are given.

E. W. A.

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[The Use of Cataphoresis (Ionisation Therapy) in Corneal Diseases of the Horse. Wittmann, F., and Wahgeldt, H. (1934.) *Z. Vet-Kunde. 46.* 9.]

Definition.—Cataphoresis comprises the administration of certain chemical elements in the form of ions by means of a direct electrical current passed through the part of the body to be treated. The ions penetrate the tissue, work their characteristic effect and stimulate metabolic action. The details of the mechanism of cataphoresis are not understood.

Kations, which for the purpose of this paper include hydrogen and the metals, are drawn to the kathode (negative pole) and anions such as oxygen, OH, Br, Cl, and I to the anode pole. The part under treatment has the active pole, in the above sense, placed upon it.

Review of Literature.—Cataphoresis has been used in human ophthalmology for many years and has been tried in canine practice by Erlanger (1926) in Germany and by Galli (1930) in Italy. Both report some measure of success in cases of corneal opacity not accompanied by grave loss of tissue.

New Research.—Wittmann and Wähgeldt appear to be the first to apply cataphoresis to horses (at the Policlinic of Berlin Veterinary College). They quickly found that the application of an electrode direct to the corneal conjunctiva, as is done in man and in dogs, is impossible for the horse owing to the difficulty of immobilising the head; they therefore had to use the indirect route through the closed eyelid on which a specially constructed electrode carrying a gauze cap is placed. Three special electrodes were made, two for the two eyes and one for the pole, all being held in place by an adjustable head collar for use on horses of varied sizes.

In practice, one eye electrode and the pole electrode were connected by wires to an ordinary multicelled dry battery, the circuit including a milliammeter and a variable resistance.

To secure the chemical ionisation, some of the solution chosen is dropped into the conjunctival sac, the eyelid is closed, the complete apparatus is quickly adjusted into position with the active electrode capped with gauze soaked in the same solution placed firmly on the eyelid, and the current is turned on gradually. The current employed was 1 to 3 milliamps and the duration of each individual treatment began at 10 minutes and extended to as long as 30 minutes, current and period increasing at each application (up to a maximum of eleven) at four-day intervals. Horses could not bear a current of 4 m.a. or over and became unruly and sweated.

Three case records of corneal opacity are given and zinc and chlorine-iodine ionisation respectively was used at different individual treatments. [Prescriptions: (1) $ZnSO_4$ 0·5 per cent.; (2) NaCl 1·0, KI 0·5, Aq. dest. 100 parts.]

The authors conclude, from their own results (10 cases) and from those of others, that cataphoresis is of some value in clearing up more chronic forms of corneal opacity. Its value cannot be assessed in fresh cases, as these so often heal up rapidly spontaneously. Their three detailed cases were respectively 8 days, 2 days and ? days old when first treated: they all healed up with the exception of a small ulcer in one case. The most favourable indication for prospectively successful treatment is a diffuse opacity with its borders merging gradually into the healthy zone and not including a surface defect.

J. E.

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[The Treatment of Fistulæ, Abscesses and deep Wounds with Disinfectant Pastes. Buerger, U. (1934.) *Z. Vet.-Kunde. 46.* 9.]

The author gives eleven case records of fistulous withers, poll evil, deep infected wounds, etc., in horses and discusses the pros and cons

of the value of disinfectant/antiseptic watery fluids as compared with pastes.

The case records are not remarkable, but in a few cases in which a watery antiseptic had failed to put a stop to suppuration, a paste succeeded.

Pocketed wounds of all kinds are well suited for treatment with paste, which is injected under sufficient pressure to drive out all the pus and to distend the wound cavity and keep it so distended (with the aid of plug or other supporting dressing). The advantages of this are presumed to be too obvious to require detailing.

Three prescriptions for an antiseptic paste are given: (1) ichthyol 12, lanolin 20, ceræ flav. 15 and lard 100 parts; (2) thymol and menthol *aa* 1, paraffin wax 20, ceræ flav. 15 and vaseline 100 parts; (3) thymol and menthol *aa* 1, balsam peru. 2·5 (dissolved in spirit 2·5 per cent.), paraffin wax 20, ceræ flav. 15 and vaseline 100 parts.

One case of open tendon sheath of the off-hind deep flexor was treated by syringing with a good watery antiseptic for about six weeks without success and, except for a small relapse in the form of a localised abscess, responded to a course of three injections of paste No. 1 given at two-day intervals.

Permanent contraction of the tendons resulted from the two months of acute lameness, and, although the animal was fitted with shoes with high heels and a projection at the toe, this disability was not entirely overcome.

J. E.

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[Some Practical Conclusions Drawn from Eight Years' Study of Mastitis in Europe and North America. (Trans. title.) Rosell, J. M. (1934.) *Le Lait.* ***14.*** 914-924 and 1050-1060. (9 refs.)]

Rosell reviews his previous publications on bovine mastitis, referring at times to the reports of other workers on the subject.

In his experience, 95 per cent. of mastitis is of the chronic contagious variety, nearly always due to streptococci. He quotes various authorities to show the high incidence of the disease and the enormous loss caused in all countries in which milk production is intensive. The percentage of infected cows averages 20 to 40 per cent., whilst it may reach 80 to 90 per cent. in individual herds.

The main facts concerning the disease itself are dealt with under the following headings: the nature of the disease; its diagnosis by chemical methods, *viz.*, determination of the degree of acidity or alkalinity, the catalase content (which is dependent on the number of cells), the chloride content, and lactose content; its diagnosis by looking for small clots or flukes on a black surface, by measuring the proportion of deposit obtained by centrifuging, or by cell counts, and, lastly, the bacteriology of streptococcus mastitis, its prevention by separation of infected and non-infected cows; and the question of vaccination.

It is impossible to deal in detail with this review in the short space of an abstract. The methods advocated for diagnosis are briefly as follows: a test of the reaction with bromthymol blue as an indicator, a rapid field modification of the test for catalase, and, possibly, a rapid field modification of the test for chlorides. This is followed by a laboratory examination of all quarters which are normal or doubtful to these tests.

A. W. S.

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[A Short Note on Actinomycotic Granulomata. Albiston, H. E., and Pullar, E. M. (1934.) *Austral. Vet. J.* ***10.*** 146-7.]

During the last three years Albiston and Pullar have examined 200 specimens which were clinically described as actinomycosis. In most cases the material received was preserved in formalin and the diagnosis was based on microscopic examination of stained smears and sections, though in a few cases cultural confirmation was possible.

The cases are tabulated according to site of lesion and apparent cause. Of 79 cases affecting the bones of the jaws, 72 were due to streptothrix infection and seven to the actinobacillus. Of 72 cases in soft tissues such as tongue, lymph and salivary glands, muscle, etc., 27 were due to the streptothrix, 44 to the actinobacillus and one to staphylococci. Of 12 examples of lung infection, five were due to the streptothrix, five to the actinobacillus, and two to *Corynebacterium pyogenes,* whilst of 36 cases of actinomycotic lesions in the mammary gland, only one was due to the streptothrix and one to the actinobacillus, the remaining 34 being due to staphylococci.

The authors have now examined a total of 117 cases of mammary actinomycosis, of which 115 were due to staphylococci. Of 153 cases described by the authors and various workers in other countries, all except two were caused by staphylococci.

Two cases are specially described. The first was a widespread dermatitis in a young pig, associated with numerous small swellings in the skin, especially of the abdomen which proved to be actinomycotic granulomata caused by staphylococci. The second was actinomycosis of a cow's lung. Sections showed large masses of typical streptococci, surrounded by club-like bodies. Unfortunately cultural examination was not possible.

A. W. S.

[**Prolonged Colonisation of the Udder of a Cow by Anthrax Bacilli.** Weidlich, N. (1934.) *Wien. tierärztl. Mschr.* *21.* 10.]

A remarkable case record of a seven-year-old cow which was vaccinated against anthrax in the spring of 1932. In July she became ill of typical anthrax, but was saved by the use of anti-anthrax serum. In August a mastitis set in and did not clear up until the cow had dried off in the following January. In these latter months anthrax bacilli were repeatedly demonstrated in the milk (by microscopical, cultural, serodiagnostic and animal inoculation methods).

In April, 1933, the cow calved normally, and in the succeeding five months the calf suckled normally and did well, and anthrax bacilli continued to be excreted in the milk.

The cow had to be slaughtered in August (cause not explained) and the presence of anthrax bacilli in the udder was confirmed, but they were entirely confined to this organ.

The bacilli showed a change in cultural characters and a decrease in virulence during the course of the observational period.

J. E.

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[**Paratyphoid Bacilli in Cattle.** Clarenburg, A. (1934.) *Tijdschr. Diergeneesk.* April, 1934.]

The fæces of 208 apparently normal, healthy cattle, including 50 calves between the ages of six weeks and four months, were examined for the presence of organisms of the paratyphoid group. *S. enteritidis* (Gærtner) was isolated from the fæces of three adult cattle.

A serological examination of the blood was made in each case. Of the 50 calves, 43 did not agglutinate suspensions of *S. enteritidis*, *S. typhimurium* (*ærtrycke*) or *S. paratyphi B.* in a dilution of 1/50. Seven agglutinated one or more suspensions from 1/50 to 1/100. Of the 158 adult cattle, 29 failed to agglutinate any suspension at a dilution of 1/50, whilst the remainder agglutinated one or more suspensions up to a titre of 1/400. The author concludes that in two cases these agglutinins were induced by the homologous organism and recommends either agglutinin-absorption tests or heating sera to 56°C. for half-an-hour in order to distinguish between such agglutinins and so-called normal agglutinins. [Neither method has been of value in this country, where so-called normal agglutinins have been shown to be relatively heat stable and specific as shown by absorption tests.]

The author concludes that *S. enteritidis* is not normally found in the fæces of normal cattle, but when found it represents the carrier state after infection.

N. S. B.

Report

[**Medical Research Council.** Great Britain. (1935.) Report for the Year 1933-34 (Marquess of Linlithgow.) pp. 172. London: H.M. Stationery Off. (8vo.) (3s.).]

The report is divided into seven main sections. The general nature of the research work covered is described briefly in the introduction. The remaining sections cover respectively the work of the National Institute for Medical Research; The Determination of Biological Standards and the Methods of Biological Assay and Measurement; The Department of Clinical Research, University College Hospital, London; External Research Schemes and Industrial Health, and Travelling Fellowships. The composition of the 25 Investigation Committees for Special Subjects is given in an appendix.

Veterinary representation is limited to two members on the Tuberculosis Committee, which is a joint committee with the Agricultural Research Council.

A grant-in-aid of £139,000 was provided by Parliament during the financial year, £9,000 being allocated for administration and travelling expenses of the Council, £54,000 for the National Institute for Medical Research at Hampstead and the farm laboratories at Mill Hill, and £76,000 for research grants to scientific work elsewhere. Important additions to this public monetary grant were received from certain other sources.

Prof. E. Mellanby has succeeded the late Sir Walter Fletcher as Secretary to the Council.

The National Institute for Medical Research

Much of the work done is of great interest to veterinarians and two members of the profession are on the staff of the Institute, Major G. W. Dunkin and Mr. I. A. Galloway. A list of the 54 scientific workers is given.

Viruses.—The research activities in infective pathology continue, as in recent years, to be concerned largely with viruses and virus-like infective agents.

Influenza.—The work with ferrets as experimental animals has been continued. It has been found that mice—previously thought to be insusceptible—can be infected.

The results obtained with the swine influenza virus are closely similar to those obtained with a virus of human origin—as regards infection of the ferret and mouse, immunity and filtration—proving that the two viruses are certainly intimately related.

Propagation of Viruses.—The use of artificial cultures from human fœtuses for the propagation of certain human disease viruses

met with no success. There has, however, been an increase in the use of the chorio-allantoic membrane of the chick developing in the egg for the measles virus, and for the propagation of the viruses of vesicular stomatitis, "louping ill," Newcastle disease and fowl plague with useful results.

Psittacosis.—The infective units of this virus are sufficiently large to be visible by ordinary microscopic examination with special staining methods; approximate measurements have thus been obtained, the estimated diameter being 0.2 to 0.4μ.

Diseases of the Central Nervous System.—A description is given of certain work on the viruses of poliomyelitis and of "louping ill."

Other Research.—Bacteriophages, infective tumours and the photodynamic inactivation of viruses have been studied.

Bacterial Chemistry and Immunology.—A study has been made of the specific constituents of tuberculin and of a specific precipitation test with urine of infected persons. Diagnostic johnin produced by the growth of *Mycobact. pseudotuberculosis* (Johne's bacillus) on a synthetic medium has yielded successful results.

Protistology.—The study of the intestinal protozoa of monkeys and man has been continued.

Physiology.—Work was carried out on the chemical transmission of nervous effects, carbohydrate metabolism, sex hormones and calciferol (vitamin D).

The Determination of Biological Standards

The regular distribution of the standards held by the Institute under the Therapeutic Substances Act, or on behalf of the Health Organization of the League of Nations or for the British Pharmacopœia has been maintained. These cover bacterial suspensions and antisera, toxins, tuberculins, vitamins and certain hormones.

The National Collection of Type Cultures

Over 5,000 cultures were distributed and 200 new cultures were deposited for maintenance.

The Department of Clinical Research, University College Hospital, London

Among other questions, "trophic" changes in skin, the diagnosis of structural changes of arteries of limbs, and cerebrospinal fluid were considered.

External Research Schemes

Hormones, the causation of goitre, nephritis, heart disease, the nature of the anti-anaemic substance (hæmopoietin) in the hog's stomach, fat metabolism, anæmia, the mechanism of pain, anæsthetics, studies on body growth and on cell and tissue growth, certain neurological problems, malignant disease, problems of vision and of hearing, certain surgical investigations, chemotherapy, genetics, statistical investigation and epidemiology are among the very wide range of subjects dealt with that are directly or indirectly of interest to veterinary readers.

In the nutrition section active work has been carried out on vitamins.

The relationship of bovine tubercle bacilli to human pulmonary tuberculosis and to tuberculous meningitis is under study at Cambridge. It has been found in investigations of cases at Stafford and Aberdeen that there was a relatively higher incidence of bovine infection.

Trials with the B.C.G. vaccination of calves have been continued at Cambridge, while immunity to tuberculosis has been studied at Oxford.

The sources of human undulant fever have been investigated at Aberdeen. It is concluded that, apart from direct contact with diseased cattle, the chief method of infection is by drinking raw milk.

The nutrition of bacteria has been the subject of study at the Middlesex Hospital, London. Two new growth factors have been demonstrated.

The physical chemistry of antigens and antibodies and the methods by which they combine in immunity reactions are under investigation at the Lister Institute, the London School of Hygiene and Tropical Medicine, and at the Middlesex Hospital, London.

Helminthology.

Immunity and the influence of diet on worm infestations have been studied at St. Albans.

W. A. P.

GUIDE DOGS FOR THE BLIND

The importance of training dogs to help the blind was emphasised at a dinner, organised by the Tail-Waggers' Club, held recently at the Connaught Rooms. The club has a membership of nearly 605,500, and the dinner, which was under the chairmanship of Captain Sir Beachcroft Towse, V.C., was in aid of the Guide Dogs for the Blind Association. Mr. P. J. Hannon, M.P., proposing "The Guide Dog Movement and the Tail-Waggers' Club," said there was nothing more striking than the leading of the blind by dogs which had been specially trained for the purpose. The attention of the Minister of Transport might be called to the advantages which would come from the extended use of this practice on the roads. Captain H. E. Hobbs, founder of the club, responded. The health of the chairman was proposed by Captain Sir Ian Fraser, who said it was difficult for the average person to understand the immense amount of freedom and happiness which came to a blind person who had a properly trained dog to lead him.

N.V.M.A. Divisional Reports

MID-WEST V.M.A.*

ANNUAL MEETING AT BRISTOL

The Annual General Meeting of the Mid-West Division was held at the Royal Hotel, Bristol, on Friday, January 18th, 1935, when the President (Captain J. R. Barker) occupied the Chair and the following members were present: Mr. J. R. Baxter, Captain J. C. Coleman, Captain F. J. Eardley, Messrs. A. E. Gachet, J. S. Garside, C. R. Golledge, S. V. Golledge, R. W. Hall, and F. B. Hardy, Colonel G. E. Henson, Messrs. J. R. Hewer, F. C. Hobbs, T. J. Margarson, D. W. Menzies, S. H. Pettifer, C. J. Pugh, Wm. Scott, Wm. R. Watson, W. Webster, and C. E. Perry (Hon. Secretary). Messrs. C. S. Adams, W. J. Barclay Watson, and A. C. Urquhart were present as visitors.

The minutes of the last Annual Meeting, having been published in *The Veterinary Record*, were taken as read, confirmed and signed.

Correspondence.—Letters of regret for inability to attend were received from Messrs. R. Moore, J. W. Hall-Masheter, J. J. Aveston, J. C. S. Powell, W. A. Austin, Captain J. Howard-Jones, E. S. Seldon, and W. D. Rees.

A letter from the Royal Sanitary Institute was read, in reference to the Health Congress at Bournemouth on July 15th. This was referred to the Council.

Hon. Treasurer's Report.—The Hon. Treasurer gave a full report of the income and expenditure for the year, which showed a balance in hand of £69 9s. 3d., together with one Consol invested.

Benevolent Fund Account.—The Hon. Treasurer reported that there was a balance in hand of £42 1s. 4d. in addition to three Consols invested.

The Treasurer was thanked for his very satisfactory financial report, and on the proposition of Mr. J. C. Coleman, seconded by Mr. R. Hall, the report was adopted.

Secretary's Report

The Hon. Secretary (Mr. C. E. Perry) submitted his report for the year 1934-35 as follows:

"I am to report that during the year, the South-Wales Division has been formed, and as it is within our original area, it will probably take some of our members. At the same time, there should be plenty of room for an increase in membership within the area left to us.

"During the year we have added four new members, and lost two by resignations through removal from the district, which leaves our present membership at 82, including eight Honorary Members.

"During the year we have held four general meetings, and four council meetings; the average attendance at the general meetings being 25, and that at the council meetings 10.

"At our annual meeting in Bristol, Major G. W. Dunkin, M.R.C.V.S., D.V.H., of the Medical Research Council's Farm Laboratories, Mill Hill, gave an address on 'The future of General Practice.'

"At the Bath meeting in April, Mr. J. S. Garside, M.R.C.V.S., D.V.S.M., of the University of Bristol, gave a practical demonstration on poultry diseases.

"The summer meeting was held at Cheddar, when the members, under the guidance of Dr. Scott, were conducted through the caves. Afterwards, still under the guidance of Dr. Scott, the members were taken up the Cheddar Gorge, over the Mendips, to Wells and Wookey Hole, where tea was provided. Afterwards, Wookey Hole Caves were visited.

"The Cardiff meeting in October was made a joint meeting with the new South-Wales Division when Professor Davies, M.R.C.V.S., D.V.H., of the University of Liverpool, gave us a practical demonstration on 'Laboratory Methods in General Practice,' which was very much appreciated, and led to a good discussion."

Thanks were also given to the Secretary for his report.

Notice of Motion by W. D. Rees, Esq., to reconsider number of members of Council. After discussion, in the absence of Mr. Rees, Mr. Margarson moved that the numbers should remain as at present, namely, 14, together with the President, Treasurer and Secretary. This was seconded by Mr. Golledge and carried.

Election of Officers.

The following officers were elected for the ensuing year:—

President.—Mr. T. J. Margarson, Stroud.

Vice-Presidents.—Capt. J. R. Barker, Messrs. C. R. Golledge, E. C. Bovett and C. J. Pugh.

Hon. Treasurer.—Colonel G. E. Henson (re-elected).

Hon. Secretary.—Mr. C. E. Perry (re-elected).

Council.—The following members were elected:—The President, Capt. J. R. Barker, Mr. C. R. Golledge, Mr. W. D. Rees, Capt. J. R. Hewer, Capt. J. J. Aveston, Mr. E. C. Bovett, Capt. J. C. Coleman, Messrs. R. Moore, W. R. Watson, C. J. Pugh, H. S. Robinson, F. J. Eardley, S. V. Golledge, Dr. W. M. Scott, Colonel Henson, and Mr. C. E. Perry, Hon. Secretary.

Representatives to the N.V.M.A.—The President (Mr. T. J. Margarson), Capt. J. R. Barker, Capt. J. C. Coleman, and Mr. C. E. Perry, Hon. Secretary.

Representative on the Victoria Veterinary Benevolent Fund.—Mr. W. D. Rees (re-elected).

* Received for publication, March 12th, 1935.

Hon. Auditors.—Messrs. W. R. Watson, and C. J. S. Powell, both re-elected, with thanks for their past services.

New Member.—Mr. A. C. Urquhart, proposed by the Secretary and seconded by the Treasurer, was elected to membership.

Twelfth International Veterinary Congress.—Capt. J. R. Barker then gave his report as the Association's delegate to the Twelfth International Veterinary Congress at New York, with particular reference to the eradication of tuberculosis, abortion, Johne's disease, and mastitis.

Mr. Margarson proposed a vote of thanks to Mr. Barker for his exhaustive report. This was seconded by Mr. J. C. Coleman, and carried with acclamation.

Morbid Specimens.—Mr. R. Hall exhibited three hair balls, all taken from veal calves under four months old, also shell of molar teeth taken from a horse.

At the conclusion of the meeting, the members partook of tea together.

Charles E. Perry, *Hon. Secretary.*

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NORTH OF SCOTLAND V.M.A.*

HALF-YEARLY MEETING AT ABERDEEN

The half-yearly meeting of the Division was held in Marischal College, Aberdeen, on Saturday, February 2nd, 1935.

Owing to the lamented death of the President, Mr. David Crabb, New Aberdour, the Senior Vice-President, Mr. John C. Grant, Aberdeen, took the chair. There were also present: Messrs. William Anderson, Wm. Grant, A. Macfarlane, J. G. Souter, W. A. R. Ogilvie, J. Cummine, D. Cumming, J. Lyon, Robson, Junr., A. Niven, H. McVean, A. Sievwright, W. Hepburn, and G. Howie, Hon. Secretary.

Death of the President: Mr. Anderson's tribute.—Before opening the meeting, Mr. Grant called upon Mr. William Anderson, Keith, to say a few words about the late President. Mr. Anderson complied with this request and while the members stood he made the following remarks :—

"I had the pleasure of introducing Mr. David Crabb to the chair at our last meeting and we little thought at that time that he would never again occupy that place of honour.

"Mr. Crabb was one of the oldest members of this Society—a regular attender at the meetings—and one who worked hard to raise the standard of the Society and the Veterinary Profession in general.

"I am sure his death came as a great surprise and shock to us all and more particularly to me, knowing him, as I did, for a longer time than any other member (for over 50 years). When one passes the four score, one feels the death of an old friend in a peculiar way.

"I had the pleasure of spending a pleasant afternoon with Mr. Crabb at his home just a few weeks before he passed away. He was cheery at that time but complained about feeling the weight of years. He will be much missed in his home and in the district in which he practised so long and where he had so many friends and clients who trusted in him.

"I am sure, gentlemen, it is your wish that our Secretary should write the sorrowing widow and daughter conveying the Society's sincere sympathy with them in their bereavement."

The Chairman then made reference to another loss to the profession in the North of Scotland—Mr. William Marshall, Huntly. He said that they all would regret the passing of Mr. Marshall even although he was not a member of the Division, as he had been a very popular and well-respected veterinary surgeon in the North for a considerable number of years.

The Minutes of last meeting were taken as read, as they appeared in *The Veterinary Record*, and were approved and signed.

Apologies for absence were received from Mr. J. Beattie, Mr. James Anderson, Mr. Wm. Macpherson, Mr. Robson, Senr., Mr. W. J. Rice, and Mr. W. McKay of Banff.

Correspondence.—The Secretary read the following letters :—

(1) From the General Secretary, National Veterinary Medical Association, dated January 31st, 1935, requesting the Division to forward the name of a delegate appointed to represent the Branch at the Annual Congress of the Royal Sanitary Institute. After discussion on the advisability of appointing a delegate, it was resolved that none should be appointed as the funds of the Division were not sufficient to bear the expense.

(2) From the General Secretary, National Veterinary Medical Association dated January 31st, 1935, asking the Divisions to submit their views as to the desirability of the Council, in agreement with the Divisions, considering the proposal that a composite subscription should be instituted to cover the membership of the N.V.M.A. and of its Divisions. After a somewhat lengthy discussion, the majority of the members agreed with the proposal on principle, but they felt they would like to have more concrete proposals put before them before they could give a definite opinion on the subject.

Election of Office-Bearers.

President.—Mr. J. C. Grant, Aberdeen, proposed by Mr. William Anderson and seconded by Mr. Wm. Grant.

Vice-Presidents.—Senior—Mr. W. J. B. Robson, Laurencekirk; Junior—Mr. A. Niven, Inverurie.

* Received for publication, March 22nd, 1935.

Council.—Messrs. W. J. Rice, Montrose; Jas. Anderson, Keith; R. E. Drennan, Aberdeen; H. McVean, Craigellachie, and Wm. Grant, Aberdeen.

Hon. Secretary and Treasurer.—Mr. George Howie was re-elected.

As there was no Presidential Address, Mr. Duncan Cumming, Culter, very kindly gave a most interesting account of his experiences at the Twelfth International Veterinary Congress held in New York in 1934, together with a vivid description of his experiences in Canada after the Congress Meeting. The members were very interested in Mr. Cumming's remarks and he was most heartily thanked for furnishing material for the meeting at somewhat short notice.

After Mr. Cumming's address there was a prolonged discussion on the minimum fees to be charged for the tuberculin testing of cattle and a scale of fees was drawn up for submission to the members of the Division. The scale is a minimum one and it was felt that it might be very useful for the guidance of junior members of the profession.

Geo. Howie, *Hon. Secretary.*

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SOCIETY OF VETERINARY PRACTITIONERS*

MEETING AT BRISTOL

A meeting of the above Society was held at the Royal Hotel, College Green, Bristol, on Thursday, February 21st, at 2.30 p.m., under the Chairmanship of the President, Mr. O. V. Gunning.

There were also present Messrs. J. W. Hall Masheter, C. E. Perry, W. D. Rees, E. J. Thorburn, L. St. Bel Golledge, T. J. Patterson, R. H. Smythe, C. J. Pugh, H. C. Wilkins, H. B. Hiles, Major F. J. Taylor, Capt. H. W. Dawes, Messrs. E. P. Edwards, T. L. Whitby, Capt. W. K. Townson, Messrs. H. S. Robinson, W. R. Watson, Capt. J. C. Coleman and Mr. H. W. Steele Bodger (Hon. Secretary).

The Minutes of the last meeting, as printed in *The Veterinary Record*, were taken as read, and confirmed, on the proposal of Mr. Rees, seconded by Major Taylor.

New Members.—The names of ten practitioners, set out in the notice calling the meeting, were then submitted, and on the proposal of Mr. Dawes, seconded by Mr. Townson, these gentlemen were elected members.

The names of Messrs. G. C. Webster, O. C. M. Kay, W. R. Watson, R. H. Smythe, C. E. Perry and W. Scott were recommended for nomination by the President and others; the names will come before the Council at a later meeting.

Correspondence.—The Hon. Secretary reported that he had written to Mrs. Gaiger, on behalf of the Society, tendering her their deepest sympathy in her bereavement, and read her reply. Mr. Steele Bodger also informed the meeting that he had written to Mr. Woods (of Wigan) condoling with him on the loss of his wife under such tragic circumstances. Mr. Woods' letter of thanks for the Society's sympathy was read.

The Hon. Secretary reported that he had received about 70 apologies for inability to attend, and urged that *all* members should take the opportunity of communicating on the post-card, if they were unable to be present; it would show their interest, and also make his work easier.

The resignation of Mr. Cruickshank was accepted with regret.

Capt. Townson, having sold his practice, but taken on part-time appointments, wrote to ask if under the circumstances the Society wished him to resign. Mr. Edwards said it would be a great loss to the Society if Capt. Townson left, in view of his keen interest in the Society in the past: in this he was supported by Mr. Dawes, who spoke of Capt. Townson's useful work upon the Council of the R.C.V.S., and said that there were very few members of the Society more zealous in furthering its interests. It was shown that Capt. Townson was eligible to retain his membership as either a retired or a part-time practitioner. The President associated himself with the remarks of Messrs. Edwards and Dawes and spoke very warmly in support of Capt. Townson's continuance in membership. (Capt. Townson, being in attendance, had retired during this discussion, but returned, and was warmly welcomed back by the President on behalf of the whole of the Society, in communicating the decision.)

Arising out of the correspondence, the question of recommending support to members on the Council of the R.C.V.S. was fully discussed; the names of the nine retiring members were considered, and it was finally decided that the Council should go thoroughly into the matter at an early date and recommend to the members of the Society, in good time before the issue of the voting papers, the names of those whom they particularly desired to support.

The Secretary reported that he had received a letter from the Secretary, N.V.M.A., with regard to a composite subscription by means of which a certain amount would be allocated to the "National" and a certain sum to the Divisions. The matter was considered and it was decided that it should be dealt with by the Council and that their recommendations should be placed on an agenda for a later meeting.

Capt. Townson was appointed as delegate to the Royal Sanitary Institute Congress at Bournemouth, on the motion of Mr. Dawes, seconded by Mr. Rees.

Progress Report.—The Secretary gave his progress report, saying that the work was

* Received for publication, March 16th, 1935.

going forward and mentioning that, in addition to membership of many standing committees of the N.V.M.A., representatives had served on many special Committees, such as the Veterinary Officers' Advisory Committee, the Special Committee under the Diseases of Animals and that established to consider all aspects of tuberculin testing; furthermore, certain members had formed part of a deputation waiting upon the Milk Marketing Board, the Ministry of Agriculture and the Ministry of Health.

The most outstanding success had been work done in connection with the Veterinary Officers' Advisory Scheme, in which about 97.5 per cent. of the N.V.M.A. requests had been met by the Ministry of Agriculture. A report, together with letters from the Secretary of the Ministry of Agriculture to the Veterinary Advisory Officers would shortly be published in *The Veterinary Record*, and he thought all would feel that the agreement arrived at was very satisfactory as far as it went.

The N.V.M.A. Scheme would receive full discussion at a later date. All these schemes must be a compromise, and they had endeavoured to reach the best compromise; in many cases solutions were only arrived at after many hours of hard work. At no meetings was sight lost of the interests of the whole-time practitioners, and every effort was made for satisfactory compromise on all points. The scheme formed a good basis for argument: the Milk Marketing Board were particularly pleased with it, but unfortunately they were a body whose influence in that connection was not great; however, in meeting with County Councils they had promised to press the claims of the scheme upon them. The Hon. Secretary mentioned one criticism from the Ministry of Agriculture Veterinary Officers, who much regretted that they had not been included in the scheme.

Capt. DAWES said they were greatly indebted to the Secretary for the immense amount of energy he had put into his work: much had been done, but much still remained, and he asked that all should give their support in carrying out the work of the Association and making its future successful.

Paper.—The CHAIRMAN welcomed Mr. Smythe warmly and apologised for the length of the meeting, which had brought them to a late hour in the afternoon. He would call upon him to read his paper on the subject of "Bovine Emaciation." Mr. SMYTHE was heard with much interest and appreciation, and a good discussion followed, this being opened by Mr. Hall Masheter. [The paper and a report of the discussion are reproduced at the commencement of this issue—*Editor.*]

Mr. STEELE BODGER moved a very hearty vote of thanks to Mr. Smythe and to Mr. Hall Masheter, to the former for his very excellent paper and to the latter for the admirable opening. This was received with acclamation on being put to the meeting by the Chairman.

A vote of thanks to the Chairman concluded the meeting.

. . . .

Meeting of Council

Prior to the above, a meeting of Council of the Society was held, there being present the President (Mr. O. V. Gunning, in the Chair) Messrs. Dawes, Edwards, Hall Masheter, Townson, Taylor and the Hon. Secretary, Mr. H. W. Steele Bodger.

The SECRETARY said that the business of the Council was so voluminous and so important that it might perhaps be as well as curtail the Council meeting and have a full meeting of Council at another date in the near future, without any paper. It had been suggested that the meeting should be held in London or that perhaps two meetings should be held, one in the north and one in London, because there were matters on the agenda which were extremely important and the discussion of which it would be impossible to get into anything short of a full afternoon: any attempt to do so would be abortive and not in their interests or those of the matters to be discussed.

It was proposed by Mr. DAWES, seconded by Mr. EDWARDS and agreed, that a recommendation should go forward from the Council that the next meeting should be held at Newcastle-on-Tyne, to be followed by others as decided by the executive.

The HON. TREASURER reported that about 100 subscriptions were in arrear and he asked for instructions. It was decided that it should be the practice of the Society to notify members when subscriptions were overdue, and to request payment, thus avoiding heavy outstanding arrears.

New Members.—The following were nominated for election as members: Mr. L. A. Auchterlonie, M.R.C.V.S., Nottingham; Mr. J. S. Blair, B.SC., M.R.C.V.S., Tottenham, N.17; Mr. C. G. Hill, M.R.C.V.S., Darlington; Mr. A. J. James, M.R.C.V.S., Peterborough; Captain W. R. McKinna, M.R.C.V.S., D.V.S.M. (Vict.) Huddersfield; Professor Wm. C. Miller, M.R.C.V.S., F.R.S.E., Royal Veterinary College, London; Major R. H. H. Over, M.R.C.V.S., Rugby; Mr. O. Stinson, M.R.C.V.S., Appleby; Mr. R. A. Willett, M.R.C.V.S., Staines; Captain T. B. Yarrow, M.R.C.V.S., Ludlow, Salop.

The SECRETARY reported there were 248 members, with ten new recommendations, and that he had one resignation; bringing the total up to 257 exclusive of several other names which would come before the subsequent meeting.

The Council Meeting was then adjourned.

H. W. STEELE BODGER, *Hon. Secretary.*

In Parliament

The following questions and answers have been recorded in the House of Commons recently:—

Royal Veterinary College

Major Sir Alan McLean asked the Minister of Agriculture whether the recommendations contained in paragraphs 44 and 45 of the report of the departmental committee on the reconstruction of the Royal Veterinary College have been given effect to; and, if so, to what extent?

The Minister of Agriculture (Mr. Elliot): The Governors have accepted in principle the recommendations to which my hon. and gallant Friend refers, but action has been deferred until the re-building of the College is approaching completion. I understand that they have recently been advised that it will be necessary for them to apply for a new charter, and that a draft is in course of preparation.

Sir A. McLean: Does not my right hon. Friend think, having regard to the large sums which have been provided out of public funds for the reconstruction of this college, that it would be better to reconstitute the government of this college before the money is spent, rather than after?

Mr. Elliot: My reply refers to the approaching completion of the rebuilding of the college.

Sir A. McLean: Is it not actually going on at the present time?

Mr. Elliot: Yes, it is going on now.

. . . . .

Cattle Diseases

Mr. T. Williams asked the Minister of Agriculture what action has been taken by his Department and the Ministry of Health to implement the recommendations of the committee on cattle diseases; how many county authorities have appointed veterinary inspectors; and in what other direction efforts towards improvement have taken place?

The Minister of Agriculture (Mr. Elliot): The report raises many issues involving large administrative questions, several of which are still being worked upon by the departments concerned. Two particular measures of importance affecting the matters concerned, of which I hope the effects will be far-reaching, have recently been or will shortly be brought into action, namely, the scheme of the Milk Marketing Board for a roll of accredited producers which comes into operation on May 1st and the Government's attested herds scheme which came into operation on February 1st. In England and Wales county authorities have appointed 70 whole-time veterinary inspectors, and in addition 538 part-time. The majority of these were appointed for duties under the Diseases of Animals Acts; but they are available also for other duties if required. Twenty-one out of the 70 whole-time veterinary inspectors have been appointed since April 1st last.

Mr. Williams: Can the right hon. Gentleman tell us how many county authorities have not veterinary officers and in how many counties no inspections are taking place?

Mr. Elliot: If the hon. Gentleman will put down a question, I will try to give him the information.

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Infectious Diseases (Milk Supply)

Lieut.-Colonel Sir Arnold Wilson asked the Minister of Health whether he will draw the attention of medical officers of health to the statement in the report of the cattle diseases committee that the available evidence as to the importance of milk in the spread of infectious disease is not conclusive, and that the number of cases of scarlet fever traced to milk in the last 20 years is only 2,500 to 3,000 out of some 2,000,000 cases?

The Minister of Health (Sir Hilton Young): No, Sir. Even if it were established that only 2,500 to 3,000 cases of scarlet fever in the last 20 years were attributable to milk, I should still consider it important that milk should be pasteurised in order to prevent such cases in the future. But, in fact, the Committee on Cattle Diseases considered that infection through milk may be more extensive than appears at first sight, the reason being that it is only where a large number of cases occur that the milk supply is likely to be suspected. Also, as my hon. and gallant Friend is aware, scarlet fever is not the only milk-borne disease which can be prevented by pasteurisation.

Sir Francis Fremantle: Do not the actual figures prove the value of the great attention which medical officers have given to milk during the past 20 years?

Sir H. Young: Undoubtedly so.

Sir A. Wilson asked the Minister of Health whether he will draw the attention of medical officers of health to the statement, at page 28 of the report of the Cattle Diseases Committee, that the most serious outbreak of disease brought to their notice, involving over 500 deaths, was traced to pasteurised milk infected by a human carrier?

Sir H. Young: The outbreak in question occurred in Canada, and I understand that, while it was not found possible to determine exactly how the milk became infected, the weight of evidence was to the effect that the infection was introduced before the milk reached the pasteurising depôt, and that much of the milk was distributed without having been submitted to the pasteurising process. I see no reason to call the special attention of medical officers of health to the matter.

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Scarlet Fever, Denham and Iver

Sir F. Fremantle asked the Minister of Health whether he can make a further statement regarding the recent outbreaks of scarlet fever at Denham and Iver, Bucks, the number of cases and deaths involved, the origin of infection, and the administrative conclusions involved, with a view to the prevention of such outbreaks in future?

Sir H. Young: Up to the present, 90 cases have been reported in which the signs and symptoms were sufficiently well defined to justify a diagnosis of scarlet fever, but there have been, in addition, a large number of mild cases in which the only clinical symptoms were sore throat, vomiting, or slight fever. There have been two deaths. As regards the origin of the infection, I have nothing to add to the answer given on this subject to the hon. Member for Plaistow, on the 21st instant. The outbreak confirms the conclusion that it is practically impossible to avoid similar occurrences otherwise than by efficient pasteurisation, or some equally effective form of heat treatment, of the milk supply.

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Vaccines and Sera (Manufacture)

Mr. Groves asked the Minister of Health the names of firms that manufacture vaccines and sera for issue to public bodies or the medical profession?

Sir H. Young: I am sending the hon. Member a list of holders of licences in England and Wales under the Therapeutic Substances Act, 1925, in respect of the importation of these substances or their manufacture for sale.

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Foot-and-Mouth Disease

Mr. T. Smith asked the Minister of Agriculture whether he is aware that the departmental committee appointed in 1924 to consider the outbreak of foot-and-mouth disease recommended that agricultural workers necessarily unemployed through the slaughter of stock should receive from the State the same benefits as they would have received had they been within the scheme of the Unemployment Insurance Act; and whether, in view of this recommendation, he proposes to take any action in the matter?

Mr. Elliot: The answer to the first part of the question is in the affirmative. The hon. Member is no doubt aware that the whole question of the insurance of agricultural workers against unemployment is at present being carefully considered by the Government in connection with the recent report of the Unemployment Insurance Statutory Committee.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

April 8th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4 p.m.

April 9th.—Meeting of the Derbyshire Division, N.V.M.A., Long Eaton, at 2.30 p.m.

April 10th.—Meeting of the North Midland Division, N.V.M.A., at Sheffield.

April 13th.—Meeting of the Scottish Branch, N.V.M.A., at Stirling.

May 9th.—Last day for nominations for election to R.C.V.S. Council.

May 23rd.—Voting Papers issued R.C.V.S. Council Election.

May 30th.—Last day for return of Voting Papers R.C.V.S. Election.

June 6th.—R.C.V.S. Annual General Meeting, 12 noon; Luncheon, 1.15 p.m.
Annual General Meeting, Victoria Veterinary Benevolent Fund, 12.45 p.m.

June 13th.—D.V.S.M. Examination begins, Edinburgh.

July 29th—August 2nd: N.V.M.A. Congress at Belfast.

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ANNUAL CONGRESS, N.V.M.A.

Government Banquet at Belfast

The following letter has been received by the Secretary of the Provisional Committee from the Secretary to the Minister of Agriculture, Government of Northern Ireland:—

"I am directed by the Minister of Agriculture to say that he is very pleased to note that your Association will hold its Annual Congress this year in Belfast at the end of July and the beginning of August next.

"The Minister, on behalf of the Government of Northern Ireland, proposes to entertain the members of the Congress to a Banquet on the evening of Wednesday, July 31st. The Minister will, accordingly, be very glad if in making your arrangements for the Congress you will be so good as to keep this function in mind.

"I am, Sir,

"Your obedient Servant,

(Sgd.) G. S. Robertson."

The above announcement will be received with much gratification by all members of the Association, this being the first occasion upon which the honour of a Government Banquet has been conferred upon the "National." It is proposed, in view of this honour, to delete the Annual Dinner of the N.V.M.A. from the programme.

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R.C.V.S. COUNCIL ELECTION

A further nomination for election has been received, namely, that of Dr. Tom Hare, who is proposed by Mr. Henry Gray and Mr. Oscar Stinson. Overseas members please note.

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OBITUARY

Sir Edward Sharpey-Schafer

We regret to record the death of Sir Edward Sharpey-Schafer, F.R.S., Emeritus Professor of Physiology in Edinburgh University, who enjoyed a world-wide reputation for his basic studies in histology and endocrinology.

Sir Edward, who passed away on Friday of last week, at North Berwick, at the age of 85 years, was the occupant of the chair of Physiology at Edinburgh for 34 years and was probably unique in having been elected a Fellow of the Royal Society at the early age of 28.

He received Honorary Doctorates from numerous British and foreign universities, was President of the Royal Society of Edinburgh, 1922, and of the British Association, 1912.

Sir Edward was keenly interested in the advancement of veterinary physiology, with particular reference to the recent application of biochemical research to milk fever, at Edinburgh. During the War, the students at the Royal (Dick) Veterinary College attended his classes, and his "Essentials of Histology" has long been accepted as the standard text-book in veterinary schools.

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Mrs. Leyshon

With deep regret we have to record the passing away, in the early morning of March 27th, of

Mrs. Tegwen Leyshon, the wife of one of our members, Captain W. J. Leyshon. A son was born on the night of the 22nd, but untoward results were not even suspected until shortly before death.

Mrs. Leyshon had endeared herself to all those of her acquaintance with the profession and this friendship has been expressed by the many letters of sympathy received by her husband.

The interment on the 30th ultimo took place at the little church of her marriage (Bethesda'r Fro.) near her old home in Glamorgan, where a large company gathered in tribute to a loved personality. Amongst the numerous floral tributes were those from Professor and Mrs. G. H. Wooldridge, Professor and Mrs. J. G. Wright, Mr. and Mrs. R. Bryden and Dr. and Mrs. R. Lovell.

Mr. Arthur Pollard Burgon,

M.R.C.V.S.

Mr. Arthur Pollard Burgon, M.R.C.V.S., The Vale, Haverhill, Suffolk, whose death was recorded in our last issue, was born at Cheam, Surrey, on September 5th, 1865, and was therefore in his 70th year. His father was in the legal profession and was related to the celebrated Dean Burgon of Chichester Cathedral, while his grandfather was Master Cutler of Sheffield, where the name of Burgon is commonly known. It is probably of old anglicised Huguenot descent, for Burgon or Burgoyne is the anglicised form of the Bourgogne who probably brought the cutlery industry into Yorkshire during the persecution of the Huguenots in France.

Mr. Burgon qualified from the Royal Veterinary College on March 23rd, 1886, and after acting as pupil and assistant to various practitioners, took over the practice of the late Mr. Fenner, M.R.C.V.S., at Haverhill, some 48 years ago and carried it on to within a few days of his death. He married Miss Fell, the niece of the late Mr. Fenner, and leaves three sons and a daughter, the eldest of whom, Mr. Edward A. Burgon, M.R.C.V.S., is continuing in the practice.

Mr. Burgon was well known and highly respected by his clients and the residents among whom he lived for nearly half a century. He took part in most of the amenities of his district and was never known to deny help to any deserving cause. As a sportsman he was interested in coursing, hunting, racing, greyhound racing, cricket and football. Another attribute to his versatility was his prowess as a vocalist, his services being in great demand. Evidently this was a family talent, as his eldest brother relinquished his profession as an engineer to pursue the career of a singer. He has also a nephew who has followed the same calling.

Mr. Burgon was a very sociable friend and the essence of kindness. He was, in fact, a typical country gentleman, and meanness and malice were foreign to his nature. He will be missed sadly by all those who knew him.

H. G.

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PERSONAL

Marriage.—Hubbard-Dobie: On March 30th, at St. Stephen's Church, Prenton, Birkenhead, by the Rev. G. C. Briggs, John Horton, elder son of Mr. and Mrs. C. H. Hubbard, of Prenton, to Ellen Glen, younger daughter of Mr. Thomas Dobie, M.R.C.V.S., and the late Mrs. Dobie, of Birkenhead.

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On Leave.—Following is the list of Colonial Service Veterinary Officers arriving on leave from the Colonies, Protectorates, etc., during the month of March: Messrs. T. Bone, Government Veterinary Surgeon, British Guiana; S. Simpson, Veterinary Officer, Gold Coast; J. Heard, Veterinary Officer, Nigeria; J. Morton, Veterinary Officer, Nigeria; and G. E. M. Rogan, Veterinary Officer, Tanganyika Territory.

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REGISTRATION AND REGULATION OF OSTEOPATHS BILL

Select Committee's Enquiry

(*Continued from page* 386.)

The last witness to appear in support of the above Bill, at the enquiry by the Select Committee of the House of Lords, was Dr. John Martin Littlejohn, dean and head of the British School of Osteopathy, London.

Sir William Jowitt, K.C., who appeared for the British Medical Association in opposition to the Bill, questioned the witness about his American degrees. Dr. Littlejohn agreed that when he was appointed dean and professor of the American School of Osteopathy, Kirksville, in 1898, he had, down to the end of 1897, had no osteopathic or medical training.

Sir W. Jowitt: Let us face this thing seriously. How can a man who has had no sort of medical or osteopathic training down to the end of 1897 become dean and professor of the American School of Osteopathy in 1898?

Dr. Littlejohn replied that he had his scientific training at the University of Glasgow and at Anderson's Medical College. The chief reason why he went to America was because of an accident he had in 1888. He attended Dunham Medical School, Chicago, in 1897.

Sir W. Jowitt then questioned the witness regarding the proportion of the 45 students at present at the British School of Osteopathy who had attended a medical school.

Dr. Littlejohn said that at present all the first year students were attending medical schools. That was now one of the requirements of the British School of Osteopathy. Last year 40 applications for enrolment were refused because the applicants could not or would not go to a medical school.

In reply to Lord Elibank, the witness said that a student could do his two years in a medical school in Edinburgh and then come to the British School of Osteopathy, where he would begin in the third year of the course and make up during that year and the fourth year the two years which he had missed while in Edinburgh.

Dr. Littlejohn later agreed to write down for the members of the Committee the names of the first and second year students and the medical schools they are attending.

In reply to further questions the witness said that he was aware that the passing of certain basic science examinations had been made compulsory in America.

Sir W. Jowitt: They had to do that because the qualifications of those practising the healing art had become so lax and so low that it was a public scandal?—During the time I was in America I supported the fundamental science idea myself.

Sir Farquhar Buzzard, Regius Professor of Medicine at Oxford, who was not represented by counsel, gave evidence in opposition to the Bill on behalf of the Universities of Oxford, Liverpool, Leeds, Sheffield, and Bristol and a number of medical schools in Great Britain. He said that he was one of five witnesses who represented about 800 men and women in the universities and schools who had signed a statement in opposition to the Bill. Their objections were based on the menace to the interests of the public and the menace to the prestige of scientific medicine in this country in the eyes of the world.

Anyone who had travelled in recent years in America, as he had, would be convinced that the doctrine of osteopathy was dying in the country of its birth. Any cult at any age could produce a number of grateful patients, and every one of the medical practitioners in this country could produce as many as Dr. Macdonald had seen fit to produce. Their testimony to the skill of osteopathy had the same kind of savour as the advertisements they read about with regard to quack medicines. Although at one time osteopaths held the field in America, they had recently got into the second place and chiropractors now held the field.

Could a system which told the student from the very beginning of his career that the osteopathic theory and treatment were the thing and left nothing else to his imagination at all, be safe from the public point of view? In medicine they did not teach anything that could not be demonstrated, and theories were put before students without any attempt to prevent their own judgment being used.

Sir William Jowitt, K.C., addressing the Committee for the British Medical Association in opposition to the Bill, said that the B.M.A. opposed the Bill simply and solely on the ground of the general public interest. There were at present about 2,000 people practising osteopathy in this country, of whom 179 were regarded as qualified. Of those 179, 96 were "old boys" of the British School of Osteopathy, and the other 83 had some American qualification. The Bill proposed that the whole 2,000 should be grouped together in coming on to a State register. It might be desirable on some occasions for the State to put on a register persons who were not qualified, but, in itself, it was manifestly undesirable. One of the compelling reasons for putting unqualified dentists who were *de facto* practitioners on a State register had been the certainty that, thereafter, all dentists would be properly and adequately qualified, there being in existence all the schools and methods of teaching.

At that point the present Bill broke down altogether. Dr. Macdonald had said that there was no reputable school in this country except the British School of Osteopathy in London. Yet the divergence between Dr. Macdonald and Dr. Littlejohn, the head of the school, was as great as it could be. Of its 96 "old boys" 15 were students of the Looker School, where, so far as Dr. Littlejohn knew, the course was six months. Yet one of the Looker students was given the diploma of the British School of Osteopathy.

Manipulative Treatment

Sir Henry Brackenbury, vice-president of the British Medical Association, was then called. He said that a man on the medical register could practise homœopathy, osteopathy, or any other theory he liked. He would not have the slightest hesitation in seeing a man like Dr. Macdonald. It was wrong to assume that there had been any ostracism of Dr. Macdonald in Edinburgh. The witness said he considered it very wrong and improper for a doctor in Edinburgh to have refused to give Dr. Macdonald a vaccine for which he asked.

In further evidence Sir Henry Brackenbury said that a large number of general practitioners in colliery areas practised manipulative treatment because of the type of case to be found in those areas. They learned manipulative surgery in the medical schools, and their experience developed it. His own experience of cases requiring manipulative surgery was comparatively small, because he had been in practice in London.

Lord Elibank: Is it part of the medical curriculum?—Yes, and since the 1926 revision its importance has been emphasised very much.

Lord Esher (a member of the Committee) asked the witness whether he had deduced anything from the decline of osteopaths in the United States.

Sir Henry Brackenbury said that he considered it showed that the best osteopaths had approached so near the medical standard that those who wished to go in for healing took the whole medical course rather than something which cost them nearly as much and took them nearly as long without giving them as good a status and as large a scope. Among the less scientific—who, he was afraid, were the majority—the tendency had been to go over to the chiropractics.

In reply to further questions by counsel, the witness said that there was no need for a State register to supply any public demand for osteopathy; whatever the public required they could get without licence or register. If the State picked out for recognition—instead of tolerating—a particular cult, it would seem to a large section of the public to give a guarantee of State authority for the tenets and practices of that cult. He did not think that a State register of osteopaths would lead to any closer collaboration between osteopaths and registered medical practitioners. He would know that every one whose name was on the register had had from the beginning a biased education and had established in his mind certain fixed ideas for which he (the witness) had no use.

Lord Elibank: How can you get that collaboration?

Sir Henry Brackenbury said that he was, as a medical man, at liberty to consult and use anyone he cared to with reference to the welfare of his patients. There were means of procuring an authoritative register, without its being a State register, to distinguish between those osteopaths who might be regarded as trained and those who had had no training. That would enable a medical man to say whose collaboration he would seek. There were, however, many men on the medical register who could do everything for a doctor that an osteopath could do.

Lord Elibank: Assuming that that is so, how many doctors are there capable of doing osteopathic manipulative surgery?

Sir Henry Brackenbury: Many hundreds; certainly more than the number of osteopaths whose names would be put on the register. They are scattered all over the kingdom, whereas the osteopaths are almost all concentrated in the wealthier districts of the country.

(*The enquiry continues.*)

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"THE VETERINARY SERVICE AS A CAREER"

Addressing the Salisbury (Rhodesia) Rotary Club on the above subject, Mr. Ll. E. W. Bevan, M.R.C.V.S., formerly Director of Veterinary Research in Southern Rhodesia and now Beit Research Worker in Trypanosomiasis, said that the veterinary profession offered a very good prospect for young men of intelligence and ability. The young man who took it up dedicated his life to the endeavour to alleviate the sufferings of the lower animals—a very noble form of service. His work was interesting and very important, for the prosperity of any country largely depended upon the progress of the pastoral industries, and these could only be successfully built up on a basis of good health. As the guardian of the health of the live stock of the country, therefore, the veterinarian was in a very responsible position.

Having dealt with the professional training of the veterinary surgeon, and his activities in the sphere of private practice, Mr. Bevan turned to the consideration of the magnitude of the task facing the Veterinary Public Health Services and continued: "No wonder that as the result of public enquiries and pressure, the Government, on the advice of Mr. Walter Elliot, has recently awakened to the danger of the situation and the importance of the veterinary profession in matters of public health, and is commencing to reorganise its veterinary services. County Councils, Urban District Councils and Municipalities are being compelled to put their Veterinary Services in order and at the present time the columns of our veterinary papers contain numerous advertisements for young Veterinary Inspectors for County work.

"It is urged that in this campaign the general practitioner can and must play an important part because he is the only man who knows the true state of affairs. As guide, councillor and friend of the farmers for generations, he knows just where the danger lies and how best to tackle it. For the English farmer needs careful handling. Any severity or bullying 'puts his back up.' The veterinarian in his daily routine has to be practical and tactful. He is the man for the job."

The Colonial Services were now passed in review by Mr. Bevan, who stressed their incalculable economic value. As to veterinary research, the so-called practical man and the administrative officer often affected to despise it, forgetful of the fact that effective remedies for disease must be based upon an exact knowledge of the disease it was sought to cure; and effective control of a disease must be based upon a scientific knowledge of the disease it was sought to control. In the past, most of the successful methods of dealing with animal diseases had been based upon the findings of research. For example, rinderpest defied the practical man and it was not until Theiler and other research men introduced the virus-serum method of inoculation that it was brought under control. Or again, in 1901, East Coast fever was an almost unknown disease and because of the ignorance concerning it, it ran from one end of that country to the other. But in almost record time its cause had been discovered and an effective method of dealing with it—the method which was applied even to-day—had been evolved. It was not the fault of veterinary research that the disease has persisted so long. Foot-and-mouth disease appeared in that country in April, 1931. Before the year was finished, an effective method of immunisation had been devised and before the end of 1932—the first epizoötic involved over 700,000 head—the disease had been controlled by the application of the process to over 185,000 head. And in Bechuanaland over 750,000 were inoculated by the same method. He believed that the same process had also been applied to 140,000 head during the recent outbreak.

"The triumphs of veterinary research would require a lecture all to themselves if I sought to enumerate them all," concluded Mr. Bevan. "It is said that Alexander the Great sighed for more worlds to conquer: the veterinary research worker finds so many worlds awaiting conquest that he does not know where to begin.

"Thus you will see that there are many branches of veterinary science which offer a career for your sons. I cannot promise them a life of ease or a fortune at the end of it, but I can assure them that once they embark upon the profession they need never know an idle or uninteresting moment."

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TUBERCULIN TESTED HERDS

A statement issued by the Ayrshire Cattle Society refers to the fact that in Scotland there are at least 292 herds licensed for the production of Certified or Grade "A" (t.t.) milk, and of these 277 are wholly composed of Ayrshires. The County of Ayr leads with 119 herds—all Ayrshires. In England it is known that at least 25 Ayrshire herds are licensed, making a total of 302 herds of Ayrshires licensed for the production of Certified or Grade "A" (t.t.) milk.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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YUGOSLAVIA'S FIRST LADY VETERINARIAN

To the Editor of the Veterinary Record

Sir,—I think your readers will be interested to learn that it is but a short time since Yugoslavia became possessed of her "First Lady Veterinarian." The lady in question is Miss Yelka Boykich, who, having obtained her diploma at the Veterinary High School of Zagreb, Yugoslavia, secured an appointment as assistant at the Central Veterinary Bacteriological Institute of Belgrade, Yugoslavia. Miss Boykich is the only lady veterinarian among over 800 colleagues in Yugoslavia.

I remain, Sir,
Yours faithfully,
B. Oswald.

Urosevac,
Vard. Ban.
Yugoslavia.
March 23rd, 1935.

The Editor acknowledges, with thanks, the receipt of the following:—

Reports of meetings of the Eastern Counties and North of England Divisions, N.V.M.A., from Mr. H. P. Standley and Captain J. R. Rider, respective Hon. Secretaries.

Communication from Mr. R. W. L. Chesney (London).